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Environmental Act Proposal Report

PROPOSED CHANGES AT TRANSCONTINENTAL PRINTING 2005 G.P. (LGM GRAPHICS) LOCATED AT 737 MORAY STREET, WINNIPEG

MAY 14, 2014

PROJECT NUMBER: 13ERA098

PREPARED FOR:

Manitoba Conservation
Environmental Approvals Branch
160-123 Main Street
Winnipeg, Manitoba
R3C 1A5

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1 INTRODUCTION AND BACKGROUND

EEM inc. has been mandated by Transcontinental Printing G.P. 2005 to complete an Environmental Act Proposal Report for the proposed expansion of their commercial printing facility located at 737 Moray Street in Winnipeg. The plant specializes in web and sheet-fed press printing of magazines, catalogues and commercial brochures and currently operates under license no 2719 issued on March 28, 2006.

The facility currently employs approximately 220 full-time employees and operates 6 days per week, 24 hours per day. It has been in operation since the 1971, with previous expansions in 1981 and 1987.

The current plant expansion involves the replacement of press units and of atmospheric pollution control equipment and will necessitate modification of the building structure.

Funding for the project is private. No government agency or program funds have been requested.

Public consultations in conjunction with the proposed expansion are not planned.

2 PROPOSED PROJECT DESCRIPTION

2.1 LAND USE AND TENURE

The project site is located at 737 Moray Street in Winnipeg, Manitoba at the southwest corner of the intersection of Moray and Salteaux Streets (see Figure 1). A topographic map showing the project site location is presented in Appendix A.

One building occupies approximately 45% of the surface area of the property. The remaining areas consist of asphalted parking (25%) and landscaped areas (30%). The current owner of the property is Transcontinental Printing G.P. 2005. Copies of the Certificate of Title and a surveyor's certificate are presented in Appendix B. Note that the 2007 maintenance shop expansion on the southeast side of the plant does not appear on the surveyor's certificate.

The site has been used as a printing facility with web and sheet-fed press operations since the plant was constructed in 1977. Prior to this, the project site was used for agricultural purposes or remained vacant. The NAICS code for the facility is 323119.

The facility is located in Winnipeg's Murray Industrial Park, an area zoned as *M2 – Manufacturing General*. This zoning classification is intended for light manufacturing,

processing, service, storage, wholesale, and distribution operations, with some limited outside operations and storage. Additional zoning for this location includes the *Airport Vicinity Protection Area planned development overlay district* which is intended to minimize exposure of residential and other sensitive land uses to aircraft and their potential impacts, including noise, to minimize risks to public safety from aircraft accidents, and to discourage traffic congestion and incompatible land uses proximate to, and within, airport influence areas.

Figure 1 - Project Site Location

Source : Google Maps © 2013. Image date : May 2013.

Neighboring lands are primarily used for commercial or industrial purposes. Adjoining properties are described in Table 1.

Table 1 - Surrounding activities

Direction	Occupant	Use
North	Bayco Golf and K-Tel	Commercial buildings
South	MacDon	Heavy equipment assembly
East	Winpak and American Biaxis	Plastics manufacturing
West	Angostura Distillers	Commercial building

The site is serviced by municipally supplied sewer and water services.

2.2 DESCRIPTION OF PROPOSED DEVELOPMENT

The objective of the modification, known as *Project Emerald*, is to improve the facility's long-term market viability by increasing efficiency, reducing costs and increasing product quality through modernization of the plant's principal production equipment. Overall production levels at the facility will remain unchanged in the short-term subsequent to modifications. The changes will however allow the facility to potentially increase production levels by 8 to 12%.

The planned modifications involve the replacement of two (2) web offset presses, one (1) sheet-fed press and an ultraviolet cured coating machine by two (2) used presses sourced from other Transcontinental facilities. The new presses are of the same type as those they are replacing, that is, they are of the heat set type requiring inks be cured using ovens. An existing web-offset press (NC 400B) will remain.

Existing atmospheric pollution control equipment, consisting of two (2) thermal oxidizer units, will be replaced by one (1) more efficient unit. The decommissioned oxidizers will be removed at a later date.

Finally, the project will include the modification of the building structure to accommodate one of the new press units and to provide storage space for rolls of paper and the addition of an industrial power transformer. A complete list of production-related equipment is presented in Table 2.

Table 2 - Production related equipment

☑ : Existing ☒: To be decommissioned ■: New

Equipment	Status	Comment
Pre-press		
Two (2) Fuji Luxel 9600 computer-to-plate (CTP) units	☑	
Two (2) Metafix R4 Universal pH control units	☑	One unit for for each Fuji Luxel 9600 unit
Web offset presses		
Harris NC 400B – 8 unit, 8 colour press with 2 roll stands, a folder and two 1 MM Btu/hr drying units	☑	No change
Hantscho Mark IV – 8 unit press with 2 roll stands and 2 - 1 MM Btu/hr drying units	☒	To be removed August 2014
Hantscho Mark XVI – 4 unit press with sheeter, pre-folder and one 1 MM Btu/hr drying unit	☒	To be removed June 2014
Harris M1000 with two 3 MM Btu/hr drying units (model Ecoweb 130-1020)	■	To be added in May 2014
Harris M300 with one 1 MM Btu/hr drying unit (Tec Systems CP-271) and UV coater	■	To be added in August 2014
Sheetfed presses		
Heidleberg SM-102 Speedmaster– 8 colour press	☒	To be removed September 2014
Heidleberg HD102ZP – 2 colour press with UV coater	☒	To be removed September 2014
Thermal oxidizers		
Meg Tech HXC-2 (1984) 6000 cfm for the Hantscho Mark IV press	☒	To be removed September 2014
AWS 2000 cfm for the Mark XVI & NC400B presses	☒	To be removed September 2014
MEGTEC regenerative thermal oxidizer 12,000 cfm capacity	■	Will serve the NC-400B, M1000 and M300 presses This is a refurbished unit, originally built in 2006 and removed from service in 2012. The refurbished unit is guaranteed to have a VOC destruction rate of 96%. A maintenance program will be implemented for this equipment.
Finishing		
Two (2) Mueller stitchers, each equipped with 6 rotary feeders and 2 card feeders	☑	No change
Harris binder	☑	No change
Plastic bagger unit	☑	No change
Sitma polybag unit	☑	No change

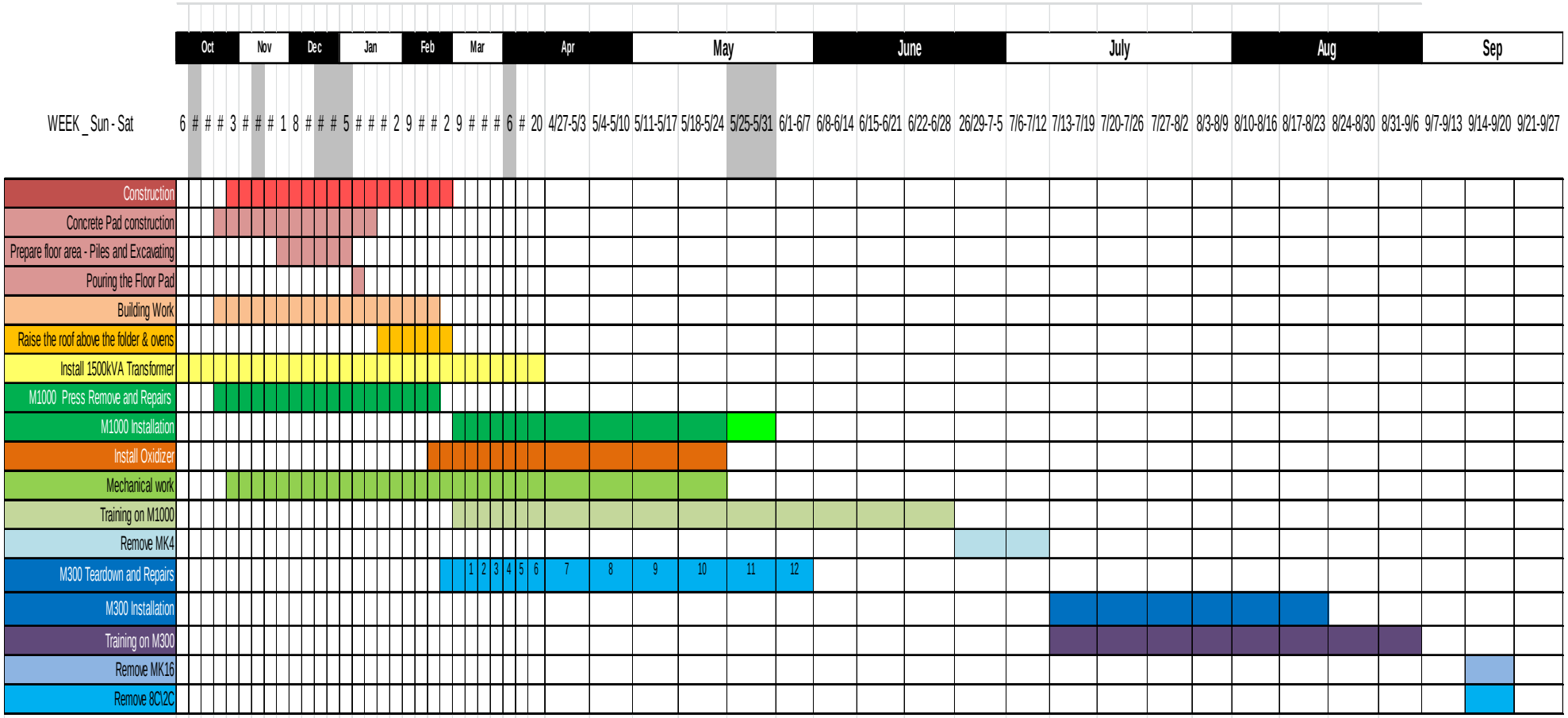
Equipment	Status	Comment
Magazine labeller	☑	No change
Inkjet labeling system (upgraded in 2003)	☑	No change
Tipper (fugitive glue for inserts)	☑	No change
Cutting unit	☑	No change
Perforator (3 hole)	☑	No change
Compressors (3): • 75 HP Gardner Denver (1993) • 40 HP Sullair 1040 (2006) • 50 HP Sullair LS12-50 (2009)	☑	No change
Oil/water separator to treat compressor blowdown	☑	Sullair FlowLogic OS-49

2.3 PROJECT SCHEDULE

The project was initiated in early September 2013 as seen in Figure 2, but is currently scheduled for completion by September 1st 2014. The schedule is designed to minimize business interruption during the transition. The principal steps of the plan are:

- Upgrade electrical system coming into the building to accommodate the power draw requirements of the new M1000 press;
- Move internal non-load bearing wall, relocate change rooms and press supervisor office, raise building roof, prepare mechanical systems for new presses;
- Install M1000 press;
- Decommission and remove Mark IV press, remove web press control station and in-feed equipment and install on NC400 press;
- Install M300 press and UV coater;
- Decommission and remove Mark XVI press; and,
- Decommission and remove 8-color sheet-fed press and current UV coater.

Figure 2 - Project Schedule



TIMELINES LISTED ARE ESTIMATED AND APPROXIMATE ONLY -Date listed is actual

3 DESCRIPTION OF ACTIVITIES

The facility's core business is the printing of magazines, catalogues and commercial brochures. A detailed description of each stage in the production process is provided in this section and a simplified flow diagram of the facility operations, including inputs and outputs, is provided in Appendix C. A facility plan with the location of major equipment is provided in Appendix D.

3.1 PRE-PRESS

3.1.1 Creation of the digital image

Images and text to be printed are created on computer using a desktop publishing application. There is no emission of contaminants during the transfer of the digital image.

3.1.2 Transfer of the image to lithographic plate

A lithographic plate is used on the printing press to transfer an image to the printed medium that may be paper or another substrate. Lithographic printing is a technique that relies on the fact that oil and water don't mix to control ink application.

The plate is prepared during the pre-press process by creating an image area on the lithographic plate that will accept oil-based ink. Digital images are electronically transferred to the lithographic printing plate via a computer-to-plate (CTP) imaging device. The image on the plate is created by exposure of the photosensitive emulsion that covers the plate to laser light.

Following exposure, the plates are processed with a developing solution that removes emulsion from the non-image portion of the plate. A developer replenisher solution is added to the developer to extend the stability and useful life of the product. The plates are then rinsed with fresh water and coated with a finishing solution that applies a protecting gum.

Rinse waters are sent to the sanitary sewer.

Waste developing and developing solution replenisher solutions are neutralized using a device designed for this purpose (Metafix system) prior to discharge to the sanitary sewer. Citric acid is used as the neutralizing agent.

During the plate development process, the heat that is generated is exhausted to the atmosphere via local ventilation systems. Negligible amounts of particulate or gaseous airborne emissions may occur.

Generally, about 10% of aluminum plates are rejected. These plates are collected and sent to a metals recycler.

3.2 PRINTING

3.2.1 Preparation of the press

The image carrying lithographic plates are attached to the rotating cylinders of a printing unit of the press. Each unit prints one color. To print a color document, four separate units are normally required, one for each color: yellow, magenta , cyan and black.

Paper, in the form of large rolls, are loaded onto the feed end of the printing press. Different sizes, weights and qualities of paper are available depending on client specifications. Rolls of paper are stored at various locations in the plant. The proposed facility changes include the creation of a centralized paper storage area in the northeast quadrant of the facility.

3.2.2 Printing

During printing, an aqueous dampening solution, commonly known as fountain solution, followed by ink is applied onto the image carrying lithographic plate. Fountain solution adheres to the areas that are not to be printed while the ink adheres to the image parts of the plate. On rotation of the image cylinder, the inked image is transferred to an image transfer cylinder, known as a blanket, before being transferred to the paper.

The dampening solution consists of fountain solution concentrate mixed with water in concentration of 40 ml of concentrate per liter of water. Waste dampening solution as well as used cleaning agents and rinse waters generated during cleaning of the fountain solution delivery system are collected and disposed of as hazardous waste.

The printing process uses heat-set inks. These generally contain between 30 and 45% (w/w) of volatile organic compounds (VOCs) and are subjected to a thermal curing step which results in the release of these VOCs. The curing takes place in natural gas-fueled, hot air drying units (no direct flame contact) that are installed at the output end of each press. The printed paper is then cooled by contact with sets of chilled rollers.

VOC emissions generated during heat curing are directed to a VOC destruction unit known as a reduction thermal oxidizer (RTO) unit where VOCs are incinerated. Emissions from the three presses at the LGM facility will be directed to a single RTO unit. The VOC destruction efficiency of the unit is rated at 96%. The VOC releases to the atmosphere are summarized in section 6.1.1.

Printing inks are stored in sixteen 350 kg steel tote tanks and are transferred to the presses via a pneumatic system. Empty tote tanks are returned to the supplier to be refilled.

3.2.3 UV coating

The new M300 press will have the capacity to apply a finish coating to printed products. These lacquer coatings can range from very glossy to matte and are cured by means of exposure to ultraviolet lamps. Curing is practically instantaneous and results in very little, if any, release of VOCs.

3.3 PRESS CLEANING

The presses must be cleaned between press runs. This is accomplished either manually using rags that have been dampened with solvent, known as blanket wash, or by means of an automated roller cleaning system. The latter employs blanket wash-impregnated tissue rolls that travel through the press while the press is running, cleaning the rollers as they pass through. Since the press is operational during this cleaning phase, the VOC emissions are directed to the RTO unit and destroyed. Soiled automated roller cleaning tissue is collected and disposed of by a hazardous waste disposal contractor.

During manual cleaning, in general, 50 % of the solvent used evaporates as fugitive emissions. The remainder stays in the rags. Soiled cleaning rags are stored in closed barrels and are directed to a specialized company to be cleaned and reused.

The VOC releases to the atmosphere are summarized in section 6.1.1.

3.4 BINDING AND PACKAGING

Printed products are trimmed, folded, assembled and packaged according to customer requirements. Paper dust is generated and directed via metal ducting to cyclone dust collector units. A non-hazardous water-based glue is used in binding. Glue emissions are considered minimal.

Packages of product are than strapped or bagged in heat-shrink plastic, labeled and stored until pick-up. .

3.5 RELATED EQUIPMENT

3.5.1 Compressed air

Compressed air is provided by three (3) air compressors (2 x 40 HP, 1 x 75 HP) with a total capacity of approximately 320 CFM. Blow down from the compressors is directed to an oil / water separator unit prior to discharge to the sanitary sewer system.

3.5.2 Heating and cooling

Heating in office spaces is provided by electric baseboard heaters.

Heating in the production areas is provided by a roof mounted makeup air system that can be operated using heat recovered from the regenerative thermal oxidizer used to destroy the VOC emissions or from its own natural gas fired forced air burner rated at 3.5 MMBtu/hr.

Suspended natural gas fired forced air units are provided near the shipping docks.

The office section of the plant is cooled with eleven (11) roof-monted HVAC units rated at 5 tons per unit. A 25-ton unit installed on the northeast side of the plant provides cooling for the production area.

Cooling of the web presses is achieved using water obtained from wells on the property. The system is comprised of four (4) wells - two (2) supply wells and two (2) return wells. The wells are licensed by Manitoba Water Stewardship (License no. 2010-081). According to the license, the maximum rate of water that can be diverted is 25 liters per second and cannot exceed 756,000 m^3 per year. The location of the wells is presented in Figure 3.

Figure 3 - Location of supply and return non-contact cooling water

supply (O) and return (⊙) wells

4 REGULATORY REQUIREMENTS

In addition to the present license request, required under the Environment Act (CCSM c E125) for a Class I Development, the facility is subject to the requirements specified in Table 3.

Table 3 - Required approvals, authorizations and permits

Topic	Requirement	Status
Hazardous wastes	Under the Generator Registration and Carrier Licensing Regulation (175/87), the generator of hazardous waste must register with Manitoba Conservation.	Transcontinental Printing 2005 G.P. is registered under provincial ID no. MBG10717 for the following wastes: Waste aerosols (UN1950) Aliphatic solvents (UN1993) Waste printing ink (UN1210) Waste oils (NR)
Wastewater discharges	The facility's wastewater discharges must comply with the requirements of the City of Winnipeg's sewer by-law no. 92/2010. The by-law imposes restrictions and limits on what can be discharged to the municipal system.	Discharges to the sewer include rinse water, treated water from the pre-press room, compressor blowdown after oil separation, as well as janitorial and sanitary water. These do not contain substances prohibited by the regulation and are not expected to exceed any limits. The City of Winnipeg conducted wastewater sampling at the facility on March 5th, 2014. All parameters analyzed were found to be compliant with the requirements of the buy-law. A copy of the sampling report is provided in Appendix E The facility holds wastewater discharge License no. IW-TRANS-2015 for the discharge of well water into a land drainage sewer. The period of validity is January 1, 2011 to December 31, 2015. The license has specific condition and restrictions. A copy of the license is presented in Appendix F.
Well	Under the Water Rights Act (C.C.S.M. c. W80), no person shall use or divert water, unless he or she holds a valid and subsisting license to do so.	The facility holds a license issued by Manitoba Water Stewardship for two (2) wells used to supply water for industrial cooling purposes. The license no. is 2010-081 and is valid until March 1, 2021. The license replaces license no. 93-13. A copy of the license is presented in Appendix G.

Halocarbons	The Ozone Depleting Substance and Other Halocarbons Regulation (103/094) prohibits the operation of a chiller using a Class I substance without the authority of a Class I permit.	The facility operates ten (10) roof mounted air conditioning units. Details regarding location and capacity of the units are provided in appendix H.
Controlled products	The Workplace Safety and Health Regulation (217/2006) requires that controlled products, as defined by the Hazardous Products Act (R.S.C., 1985, c. H-3), be labeled, that Material Safety Data Sheets be maintained and that employees whose work involves the use of a controlled product receive WHIMIS training.	The facility maintains an MSDS database containing all controlled products used and provides training to employees whose work involves the use of a controlled product. The controlled products used are listed in Appendix J, along with their MSDS .

5 DESCRIPTION OF THE EXISTING ENVIRONMENT IN THE PROJECT AREA

5.1 BIOPHYSICAL ENVIRONMENT

5.1.1 Local setting

The project site is located in an urbanized setting. Situated within the boundaries of Winnipeg's Murray Industrial Park area, adjoining properties to the project site are either commercial or industrial. Winnipeg's James Armstrong Richardson International Airport property border is located approximately 0.5km to the east. The airport also houses Canadian Forces Base Winnipeg.

There are no apparent water bodies or areas of natural significance in the immediate area of the project site. The nearest bodies of water are a drainage ditch along the edge of the airport property located approximately 1 km to the north and the Assiniboine River located 2 km to the south. Sanitary and storm water discharges from the facility are directed to the municipal system.

5.1.2 Topography and Hydrogeology

The project site is flat and generally at the same elevation as adjoining properties. The site is approximately 240m above sea level. The nearest bodies of water are a drainage ditch along the edge of the airport property located approximately 1 km to the north and the Assiniboine River located 2 km to the south. It is assumed that the regional groundwater flow direction is south towards the Assiniboine River.

5.2 SOCIOECONOMIC ENVIRONMENT

The facility currently employs approximately 220 full-time employees and operates 6 days per week, 24 hours per day.

The plant is located in an industrial area with no serious exposure concerns. A railway spur runs along the south side of the project site approximately 15 m from the building but trains run at low speed while accessing or leaving the adjacent plastic plant.

The project site is located over 1 km from the runway 18/36 at the Winnipeg Airport but there are no direct overhead flights.

The nearest residential sector is located on Sabre Crescent, approximately 0.3 km to the south-east of the project site and consists of row housing belonging to the Department of National Defense.

The nearest park is the Living Prairie Museum, a 12-hectare tall grass prairie preserve located approximately 1 km to the southwest of the project site.

No archeological or historic sites have been identified on or in close proximity to the project site.

The nearest First Nation community is the Brokenhead Ojibway Nation reserve located 64 km northeast of Winnipeg.

6 DESCRIPTION OF SOURCES OF ENVIRONMENTAL IMPACT AND CONTROL MEASURES

6.1 SOURCES OF ENVIRONMENTAL IMPACT

6.1.1 Air

The air emissions that are expected to be generated by the facility are presented in Table 4. A diagram presenting the locations of facility point emission sources is presented in Appendix H.

Table 4 - Emissions to the atmosphere

Emission	Source	Expected quantities	Control measure
Volatile organic compounds (VOC)	Heat-curing of printed inks onto paper; and, Fugitive solvent emissions resulting from cleaning of the presses.	Estimated at 11.7 tonnes per year once the new press is in operation.	Curing oven exhaust is directed to the regenerative thermal oxidizer that has a 96% VOC destruction efficiency. Soiled rags are stored in metal drums with lids closed to minimize evaporation. Manual pumps are used to transfer product to smaller containers to limit fugitive emissions.
Combustion emissions	Combustion of natural gas used for: Ink drying units; Regenerative thermal oxidizer for VOC destruction; and, Building heating.	Based on the estimated natural gas consumption of the facility, estimated annual emissions using standard emission factors, are: Carbon monoxide: 1.35 tonnes Nitrous oxides: 1.60 tonnes Sulphur dioxide: 0.01 tonnes Total particulate matter: 0.03 tonnes Greenhouse gases: 2,075 tonnes These amounts are well below NPRI or GHG reporting levels.	Annual burner adjustment to ensure efficient combustion of natural gas. A chart recorder provides continuous monitoring of combustion temperatures. The corporate policy on oxidizer maintenance is included in Appendix I.
Particulate emissions	Paper trimmings and dust resulting from trimming and finishing of printed products	Negligible	Trimmings and paper dust are directed to a cyclone and dust collector units via a metal ducting system.
Other	The facility has various exhaust fans and vents that are used to evacuate heat and minor odours and fumes from the plant. Eg: Fume hood exhausts from the binding area hot glue machine and plastic sealing unit, pre-press area CTP unit heat exhaust, washroom	Negligible Locations of exhaust fans and vents are presented in Appendix H.	None

	ventilation, kitchen hood exhaust, maintenance shop welding fume hood, etc.		

The principal atmospheric emissions from heat-set printing operations are volatile organic compounds (VOC) that are evaporated during ink application and drying as well as during cleaning of the presses with VOC containing solvents. VOCs may also be contained in low concentrations in certain fountain solutions.

VOCs are organic compounds containing one or more carbon atoms that evaporate under normal temperatures and pressures and participates in atmospheric photochemical reactions. Examples include naphtha, paint thinner, toluene, etc. In the environment, they react with other pollutants in the presence of sunlight, to form ground level ozone which in turn combines with fine particles to form smog.

The facility estimates its VOC emissions annual for reporting to the federal National Pollutant Release Inventory (NPRI) report. Emissions are generally slightly above the reporting threshold of 10 tonnes per year. An estimate has been prepared based on the new equipment and predicted printing volumes. The emissions from the press not destroyed by the RTO amount to 2.24 tonnes of VOC, while the fugitive emissions mainly from manual press cleaning amount to 9.45 tonnes per year, for a total of 11.7 tonnes, compared to 16 tonnes in 2012. The reduction is associated to the automatic press cleaning system on the new press.

6.1.2 Water and Water Discharges

The volume of water provided by the city is metered and is approximately 5,500 m^3 annually. The printing process is not very water intensive, the main use being the dilution of the fountain solution concentrate. The volume of process waste waters generated are relatively low and are either treated prior to discharge or recovered and sent to an authorized waste handler for disposal.

In addition, the plant does use once through non-contact cooling water to cool the press output.

Anticipated water discharges are presented in Table 5.

Table 5 - Facility wastewater Discharges

Type of effluent	On-site treatment prior to discharge	Receptor	Estimated annual volume
Sanitary wastewaters	None	Municipal sanitary sewer	Approx. 5,000m^3
Used pre-press solutions	None	Used pre-press solutions are collected and disposed of through an authorized waste disposal service provider.	Approx. 2m^3
Rinse water from pre-press area	Rinse waters are treated by a Metafix treatment units	Municipal sanitary sewer	7.4m^3
Used fountain solutions (diluted)	None	Used fountain solution is collected and disposed of through an authorized waste disposal service provider.	Approx. 16,400 kg
Waste waters from washing of floors	None	Municipal sanitary sewer	Approx. 5m^3
Air compressor condensate	Condensate from the facility compressors is directed to an oil/water separator.	Sanitary	Approx. 1m^3
Non-contact well water for press cooling (pumped from on site wells)	None	Discharged to return wells	Facility is authorized to discharge 757 L/minute from June 1 to November 15
Precipitation	None	Municipal storm water sewer	Variable

6.1.3 Raw Materials Used

Table 6 - Principle raw materials used

Product	Estimated annual quantities1
Paper	8950 metric tons
Inks	185,000 kg
UV Varnish	2,800 kg
Press Cleaning Blanket Wash	30,000 kg
Concentrated Fountain Solution	13,000 kg
Natural gas	1,001,200m^3

[1] Facility modifications may allow an increase in production of 8 to 12% above indicated values.

6.1.1 Hazardous Materials

The facility uses a number of chemical products and lubricants as part of normal printing, maintenance, and housekeeping operations. A list of products used is presented in Appendix J, along with the MSDS for those that contain hazardous ingredients.

The principle product of concern is blanket wash – a petroleum-based solvent used to clean the press lines that is a volatile flammable liquid.

Note that the facility does not use or store gasoline or other fuels on-site.

Combustible and flammable liquids are stored in a concrete walled room, approximately 15m^2, on the north side of the plant. The opening is protected by a self-closing, 2-hour fire door and an explosion relief wall. There is a 100mmm concrete curb in the opening of the room to the plant which acts as secondary containment. Gravity ventilation is provided (ventilated to outside) and is equipped with a fire damper. Grounding cables and clamps are used to minimize hazards related to static electricity build-up. Fire protection is provided by two (2) fire sprinklers.

Safety containers are used at the press lines for blanket wash and soiled rags are stored in metal garbage cans with lids. Manual pumps are used to transfer product to smaller containers

6.1.2 Waste

Production and maintenance activities will result in the generation of both hazardous and non-hazardous wastes. An estimate of the quantities of wastes generated, their means of storage and disposal are presented in Table 7.

Table 7 - Wastes and Disposal Methods

Waste	Type[2]	Source	Estimated Annual quantity generated	Storage means and maximum quantity stored	Transportation and disposal
Aluminum plates	R	Pre-press operations	40,500 kg	Stored in gaylords in the production area	Logan Iron, Winnipeg
Used pre-press solutions	HW	Pre-press operations	Approx. 2m^3	Stored in original containers in pre-press room	Clean Harbors, Winnipeg, MN or Fuji
Paper, cardboard	R	Press line	2,500 tonnes	Roll-off container	Cascades Recovery Inc., Winnipeg

[2] HW = Hazardous waste, NHW = Non-hazardous waste, R=Recyclable

Waste	Type[2]	Source	Estimated Annual quantity generated	Storage means and maximum quantity stored	Transportation and disposal
Plastic	R	Various	None	Provide info on	Cascades Recovery Inc., Winnipeg
Waste inks	HW	Press line	1,800 kg	Stored in drums in waste storage area Totes containing residual ink are returned to supplier and refilled	Clean Harbors, Winnipeg, MN Sun Chemical / Flint Inks
Waste Fountain Solution	HW	Press line	16,400 kg	Stored in drums in waste storage area	Clean Harbors, Winnipeg, MN
Contaminated containers	HW	Various	2,500 kg	Stacked on a pallets in waste storage area	Clean Harbors, Winnipeg, MN
Waste solvents	HW	Press line, maintenance	13,000 kg	Stored in drums in waste storage area	Clean Harbors, Winnipeg, MN
Waste lubricants	HW	Press line, maintenance	3,400 kg	Stored in drums in waste storage area	Clean Harbors, Winnipeg, MN
Rags	R	Press line, maintenance	10,000 units	Stored in covered steel drums in waste storage area	Canadian Linen, Winnipeg
Soiled absorbents	HW	Press line, maintenance	500 kg	Stored in drums in waste storage area	Clean Harbors, Winnipeg, MN
Glue residues	NHW	Binding / packaging	1,000 kg	Stored in drums in waste storage area	Clean Harbors, Winnipeg, MN
Paper dusts and dust collector filers	NHW	Press line, Binding / packaging	1,000 kg	General waste roll-off container (landfilled)	Waste Management, Winnipeg
Universal wastes (batteries, fluorescent bulbs, etc.)	HW	Various	200 kg	Stored in waste storage	Clean Harbors, Winnipeg, MN

6.1.1 Terrestrial

Terrestrial impacts will principally occur during construction for the expansion of the facility structure. Soils and vegetation will be impacted during construction activities, however, the area to be affected has been previously disturbed and is unlikely to be suitable for listed rare, threatened or endangered species. Adverse effects are expected to be minor and temporary.

Terrestrial impacts related to soil contamination are not believed to be significant given that interior and exterior surfaces are either concrete or asphalt.

6.1.2 Noise and vibration

Facility expansion construction activities will result in additional noise and vibration but are not expected to be a concern as these will be temporary and relatively minor as compared to existing noise and vibration resulting from on-going industrial and train related activities in the immediate vicinity of the project site.

6.1.3 Socio-economic implications and impacts to human health

Given that the expansion project consists in the replacement of existing equipment with more modern equipment and a modest increase in production which may attain 12 to 15% and that facility expansion will remain within the confines of the footprint of the facility property, no effects on population, demographics, land use or heritage resources are apprehended. In terms of human health, the presence of noise and vibration during temporary construction activities, is not considered significant. The modest increase in emissions of VOCs and combustion emissions, including greenhouse gases, to the atmosphere and the increase in wastes generated as a result of increased facility production are not expected to result in any significant increase in existing impacts to the health and safety of local population.

7 MITIGATION MEASURES AND RESIDUAL ENVIRONMENTAL EFFECTS

As described above.

8 MONITORING, MEASUREMENT AND REPORTING

No specific monitoring plans are anticipated other than the oxidizer maintenance plan described above and routine facility inspections by facility personnel.

9 EMERGENCY RESPONSE

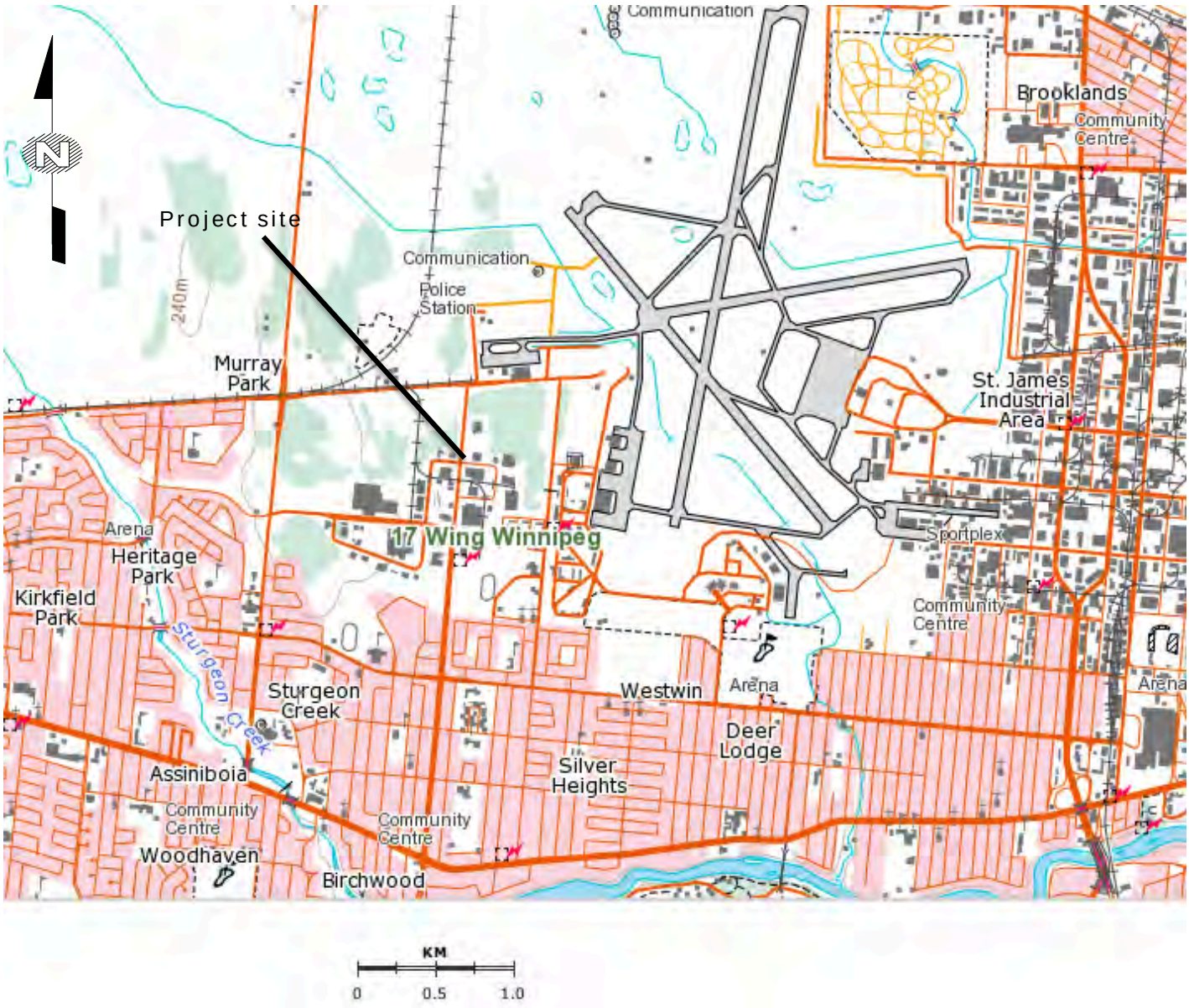
The facility does not have its own trained fire brigade but there is an evacuation team dedicated to the safe evacuation of the premises, contacting and directing the fire department. The team is trained to control an incipient, non-hazardous fire using extinguishers.

A fire drill is held every year in collaboration with the municipal fire department on all shifts. Drill records are maintained.

The facility's emergency response plan is included in Appendix K.

APPENDIX A

TOPOGRAPHIC MAP



Appendix A : Topographic map

Site: Transcontinental Printing 2005 G.P., 737 Moray Street, Winnipeg, MN	ÉEM 4115 Sherbrooke West, Suite 310 Westmount, Quebec, CANADA H3Z 1K9
Scale : As shown above	Project no.: 13ERA098
Source: Natural Resources Canada, NTS Grid 62H14	Map date : July 2013

APPENDIX B

CERTIFICATE OF TITLE AND SURVEY

POLLOCK & WRIGHT
LAND SURVEYORS

A. G. DEGNER, M.L.S., C.L.S.
G. J. LANDRIEVILLE, M.L.S.
L. N. McLAUGHLIN, M.L.S., C.L.S.

Telephone: 947-1537 Fax: 943-8024
Toll Free: 1-800-563-8656

Main Office:
204 - 379 Broadway
Winnipeg, Manitoba
R3C 0T9

Wednesdays: 9:00 to 5:00
Civic Centre, Room 305
Winkler, Manitoba
R6W 4B7
Tel: 325-4615

SURVEYOR'S BUILDING LOCATION CERTIFICATE

April 28th, 1994

L.G.M. Graphics Inc.
737 Moray Street
Winnipeg, Manitoba
R3J 3S9

Attention: Ms. Bonnie Kawka

Dear Ms. Kawka:

RE: Firstly; Lots 1 and 2, Block 2, Plan 11955 WLTO
except all mines and minerals
in RL 12 and 13, Parish of St. James
Secondly; SP Lot 6, Plan 22348 WLTO
except all mines and minerals
in RL 12, Parish of St. James

Certificate of Title: 1210975

Registered Owner: L.G.M. Investments Inc.

Encumbrances: Instrument Nos. 232110, 235482, 1016718, 1433875, 1617218, 1784631, 86-24544, 86-24545 and 87-106085 are registered against the above Certificate of Title.

This is to certify that I have made the necessary measurements to determine the position of a one storey masonry building numbered 737 on the East side of Moray Street in the City of Winnipeg and find that the same above ground level is contained entirely within the limits of the above described land.

The three pipes appurtenant to the said building are contained entirely within the limits of the above described land.

There are no encroachments above ground level onto the above described land by buildings from adjoining properties.

This survey was made on the 26th day of April, 1994.

G. J. Landrieville, M.L.S.

S K E T C H

Note: Survey monuments were not requested

PLEASE SEE ATTACHED SKETCH

53709

Winnipeg

Planning, Property & Development Department
Service de l'urbanisme, des biens et de l'aménagement
Unit 31 – 30 Fort Street • 30, rue Fort, unité 31 • Winnipeg • Manitoba R3C 4X7

ZONING MEMORANDUM

No. 04 332215 000 00 GR

To: **Graham Moore**
Transcontinental LGM Graphics
737 Moray ST
Winnipeg MB R3J 3S9

Your Reference:

RE: **737 Moray ST** **(Unit # (If applicable))**

Batch: 658 Receipt: 16857
Amount: $171.94 Ref: 04 332215
Date Printed: 10/26/2004 14:35:43
CASHIER ID: LM / RM

Legal Description: **LOT 1/2 BLOCK 2 PLAN 11955 12/3 ST JA LOT 6 PLAN 22348 12 ST JA**

The above mentioned land is zoned **MP-2**

It is subject to **City of Winnipeg Zoning By-law 6400/94 and amendments thereto.**

According to the Surveyor's Certificate prepared by **Pollock & Wright Land Surveyors** dated **Apr 28, 1994** submitted to me, it is my opinion that the buildings indicated thereon comply with the above By-law as to such yards and alignments.

Remarks:

Date: October 25, 2004

L. Hurd
for Zoning Administrator

THIS ZONING MEMORANDUM IS NOT A CONFIRMATION OF ANY PERMITTED USE OF LAND. THE ONLY CONFIRMATION OF A PERMITTED USE OF LAND IS A DEVELOPMENT PERMIT ISSUED BY THE PLANNING, PROPERTY AND DEVELOPMENT DEPARTMENT.

POLLOCK & WRIGHT
LAND SURVEYORS

A. G. DEGNER, M.L.S., C.L.S.
G. J. LANDREVILLE, M.L.S.
L. N. McLAUGHLIN, M.L.S., C.L.S.

TELEPHONE: 947-1357 FAX: 943-8024
TOLL FREE: 1-800-563-8636

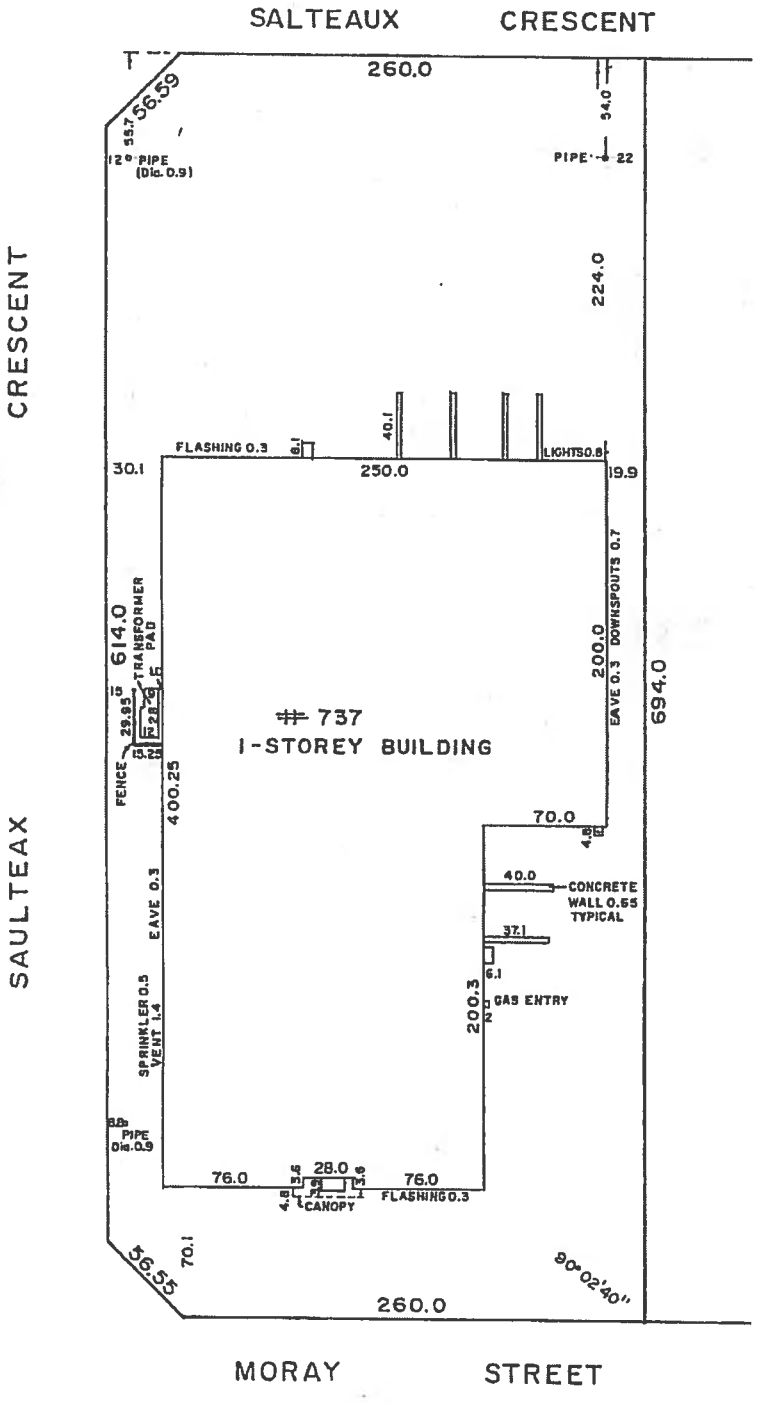
Main Office:
204 - 379 Broadway
Winnipeg, Manitoba
R3C 0T9

Wednesdays: 9:00 to 5:00
Civic Centre, Room 305
Winkler, Manitoba
R6W 4B7
Tel: 325-4615

APRIL 28TH, 1994

ATTACHED TO AND FORMING PART OF
BUILDING LOCATION CERTIFICATE NO. 53729

G. J. Landreville M.L.S.



53729

DATE: 2004/10/06
TIME: 11:12
POST

MANITOBA

STATUS OF TITLE

TITLE NO: 1689097
PAGE: 1

STATUS OF TITLE..... ACCEPTED
ORIGINATING OFFICE..... WINNIPEG
REGISTERING OFFICE..... WINNIPEG
REGISTRATION DATE..... 1999/11/29
COMPLETION DATE..... 1999/12/02

PRODUCED FOR.. X
ADDRESS.....

PRODUCED BY... J.JOYAL

LEGAL DESCRIPTION:

TRANSCONTINENTAL PRINTING G.T. INC.

IS REGISTERED OWNER SUBJECT TO SUCH ENTRIES RECORDED HEREON, IN THE FOLLOWING DESCRIBED LAND:

FIRSTLY: LOTS 1 AND 2 BLOCK 2 PLAN 11955 WLTO
EXC ALL MINES AND MINERALS
IN RL 12 AND 13 PARISH OF ST JAMES

SECONDLY: SP LOT 6 PLAN 22348 WLTO
EXC ALL MINES AND MINERALS
IN RL 12 PARISH OF ST JAMES

ACTIVE TITLE CHARGES:

232110 WPG ACCEPTED CAVEAT REG'D: 1974/10/02
FROM/BY: MAN. HYDRO ELECTRIC BOARD/ MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: NOTES:

235482 WPG ACCEPTED CAVEAT REG'D: 1975/07/15
FROM/BY: MAN. HYDRO ELECTRIC BOARD/ MANITOBA TELEPHONE SYSTEM
TO:
CONSIDERATION: NOTES:

ACCEPTED THIS 29TH DAY OF NOVEMBER, 1999
BY J.MOFFAT FOR THE DISTRICT REGISTRAR OF
THE LAND TITLES DISTRICT OF WINNIPEG.

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE SYSTEM ON 2004/10/06 OF TITLE NUMBER 1689097 .
THIS IS NOT A DUPLICATE TITLE.

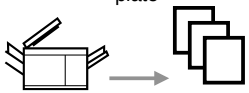
X
FOR THE DISTRICT REGISTRAR

********** END OF STATUS OF TITLE FOR TITLE 1689097 WPG **********

APPENDIX C

SIMPLIFIED FLOW DIAGRAM

LGM - simplified process flow diagram

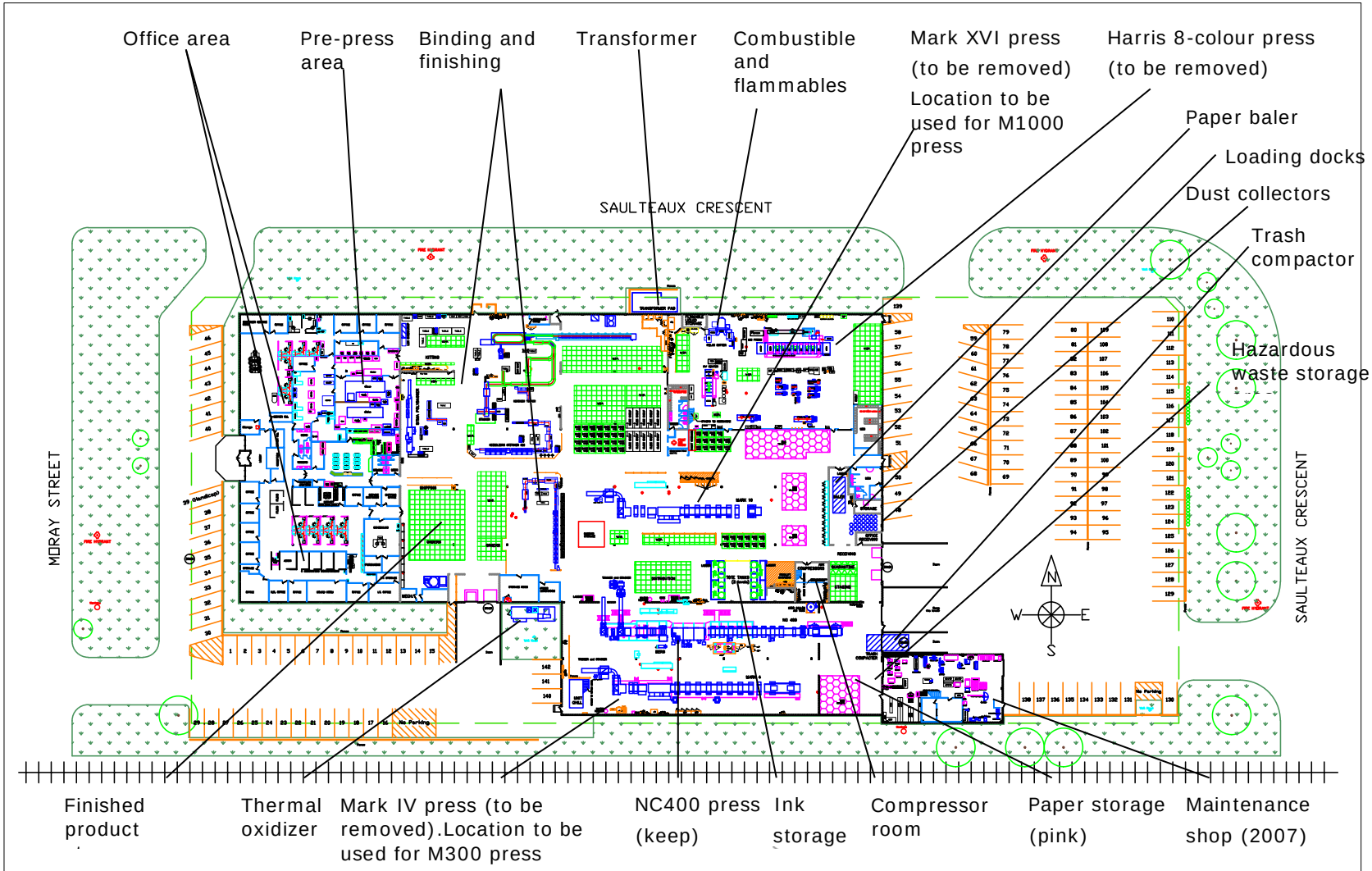
Stage	1	2	3	4	5	6
	Creation of digital image	Transfer of image to an aluminum lithographic plate	Set-up and running of press	Curing of ink	Finishing and assembly	Storage prior to pick up by clients
	 Computer	 Computer to plate imager; Engraved aluminum plates	 Web offset press	Heat curing:  Dryer; Ultraviolet curing:  UV Coater	 Finishing and binding machines	

Inputs	1	2	3	4	5	6
	None	• Aluminum plates • Developing and finishing solutions • Fresh water to rinse plates • Protective gum • Neutralizer solution for water treatment system (citric acid)	• Paper • Aluminum plates • Ink • Fountain solution • Fresh water •Impregnated cleaning roll • Blanket solution (solvent) • Rags and absorbents • Lubricants • Compressed air	• Natural gas • UV lamps • UV coating • Non-contact water (for chilling rollers)	• Glue (water-based) • Inkjet ink • Packaging materials (poly bags and wrap, staples, strapping, pallets) • Compressed air • Lubricants	• Propane • Lubricants

Outpts	1	2	3	4	5	6
Atmosphere	Heat	• Heat • Trace emissions of vapours and particulates (varies depending on developing and fixing agents used)	• Volatile organic compounds • Heat	• Volatile organic compounds • Combustion emissions • Heat	• Heat • Paper dust • Water-based glue odours (mild)	• Combustion emissions • Heat
Aqueous	None	• Spent solution (recovered and disposed) • Rinse waters – treated by Metafix prior to sewer discharge	• Used fountain solution and system rinse waters (recovered and disposed) • Used blanket wash (recovered and disposed) • Compressor blow down (oil / water separator)	• Non-contact cooling water (discharge to drainage or return well)	• Compressor blow down (oil / water separator)	None
Solid	None	• Rejected plates (recycled) • Empty solution containers (rinsed and recycled or disposed)	• Paper wastes (recycled) • Waste ink and containers (recovered and disposed) • Aluminum plates (recycled) • Waste lubricants (recovered and disposed) • Soiled rags (recovered, washed off-site and reused) • Absorbents (recovered and disposed)	• Burnt lamps (recovered and disposed) • Waste UV coatings and containers (recovered and disposed)	• Paper wastes (recycled) • Glue wastes and containers (disposed) • Packaging wastes (recycled or disposed) •Waste lubricants (recovered and disposed)	• Propane containers (recycled) •Waste lubricants (recovered and disposed)

APPENDIX D

FACILITY PLAN



Transcontinental	TRANSCONTINENTAL LGM-CORONET 737 Moray Ave Winnipeg, Manitoba	TITLE: PLANT LAYOUT	SHEET NO: 1	DRAWING NO: 1
		DRAWN BY: ANTHONY DENSMORE		REV NO: 1
		APPROVED BY:	SIZE: 8.5" x 11"	SCALE: 0.001
		FILE NAME: Plant Layout.dwg		DATE: 25/10/2012 7:58 PM

APPENDIX E

CITY OF WINNIPEG WASTEWATER SAMPLING REPORT

Winnipeg

Water and Waste Department • Service des eaux et des déchets

March 24, 2014

Document ID: IWSB-PP-453
NAICS Code: 323119

DAN REMPEL
TRANSCONTINENTAL LGM – CORONET
737 MORAY ST
WINNIPEG, MB R3J 3S9

Dear Dan Rempel:

We do not require Transcontinental LGM – Coronet to submit a Pollution Prevention Plan at this time.

We may continue to periodically monitor the wastewater discharges from 737 Moray St. If the discharges exceed the Sewer By-Law limits, we will re-evaluate and let you know if we require a plan to be submitted.

Under Section 74 of the City of Winnipeg Sewer By-law, the owner of a business must submit a Plan for approval and follow the Plan if the business is identified in Schedule E of the Sewer By-law and discharges to the:

- wastewater system any of the prohibited substances listed in Schedule A,
- wastewater system any of the substances in excess of the concentration limits set out in Schedule B,
- land drainage system any of the prohibited substances listed in Schedule C, or
- land drainage system any of the substances in excess of the concentration limits set out in Schedule D.

Please see attached table for results of our analysis of your wastewater.

If you have any questions, please contact our Pollution Prevention Inspector.

Brett Zastre
Phone: 204-986-8407
Email: BZastre@winnipeg.ca

Jenny Khounnasene
Phone: 204-986-8350
Email: JKhounna@winnipeg.ca

You can see information on the Pollution Prevention Program on our website at:
winnipeg.ca/waterandwaste/sewage/pollutionPrevention/

M. Marsland

Meghan Marsland
Supervisor, Industrial Waste Services Branch
Environmental Standards Division

Wastewater Sampling Results

Company: Transcontinental LGM – Coronet

Sample Name: TRA1

Sample Location: plate processor discharge drain

Date Sampled: 05-Mar-14

Parameter	Sewer By-Law Limit (mg/L)	Sample Result (mg/L)	Comments
Aldrin / dieldrin	0.0002	<0.0002	
Aluminum (total)	50	0.344	
Antimony (total)	5	<0.00020	
Arsenic (total)	1	0.00050	
Benzene	0.5	<0.00050	
Biochemical oxygen demand*	300	<6.0	
Cadmium (total)	0.7	0.000031	
Chlordane (cis plus trans isomers)	0.1	<0.0002	
Chromium (hexvalent)	2	<0.001	
Chromium (total)	4	<0.0010	
Cobalt (total)	5	<0.00020	
Copper (total)	2	0.0535	
Cyanide (total)	2	<0.0020	
1,1,2,2 Tetrachloroethane	1.4	<0.00050	
1, 2 - dichlorobenzene	0.05	<0.0004	
1,4 - dichlorobenzene	0.08	<0.00055	
3,3 - dichlorobenzidine	0.002	<0.0004	
Dichlorodiphenyltrichloroethane (DDT)	0.0001	<0.0002**	
Cis - 1, 2 - dichloroethylene	4	<0.00050	
Ethyl benzene	0.16	<0.00050	
Fluoride	10	0.61	
Hexachlorobenzene	0.0001	<0.00004	
Hexachlorocyclohexane (Lindane)	0.1	<0.10	
Lead (total)	1	0.000758	
Manganese (total)	5	0.0280	
Mercury (total)	0.01	<0.000020	
Methylene chloride	2	<0.00050	
Mirex	0.1	<0.10	
Molybdenum (total)	5	<0.00020	
Nickel (total)	2	0.0026	
Nitrogen (total)*	60	1.07	
Nonylphenols	0.02	<0.001	
Nonylphenol ethoxylates	0.2	<0.002	
Animal or vegetable oil	100	<1.0	
Mineral or synthetic oil	15	<1.0	

Wastewater Sampling Results

Company: Transcontinental LGM – Coronet

Sample Name: TRA1

Sample Location: plate processor discharge drain

Date Sampled: 05-Mar-14

Parameter	Sewer By-Law Limit (mg/L)	Sample Result (mg/L)	Comments
Pentachlorophenol (PCP)	0.01	<0.0005	
Phenolics (total by 4AAP method)	1	0.0026	
pH (units)	5.5 to 11	7.32	
Phosphorus (total)*	10	0.730	
Polychlorinated biphenyls (PCBs)	0.001	<0.00030	
Polycyclic aromatic hydrocarbons (PAHs)	0.005	<0.00085	
Selenium (total)	1	<0.0010	
Silver (total)	5	0.00168	
Sulphate (total)	1500	53.9	
Sulphide	1	<0.020	
Suspended Solids (total)*	350	5.0	
Tetrachloroethylene	1	<0.00050	
Tin (total)	5	0.00149	
Titanium (total)	5	<0.00050	
Toluene	0.024	<0.00050	
Temperature (degrees Celsius)	60	8.9	
Total Purgeable Hydrocarbons	10	<0.10	
Total Semivolatile Hydrocarbons	100	<0.25	
Trichloroethylene	0.4	<0.00050	
Xylenes (total)	1.4	<0.0015	
Zinc (total)	2	0.0142	

Notes: * - Discharges exceeding these limits may be eligible for inclusion into the overstrength wastewater discharge program.

** - Detection limit greater then By-law limit due to matrix effects.

APPENDIX F

WASTEWATER DISCHARGE LICENSE INTO LAND DRAINAGE SYSTEM

Winnipeg

Water and Waste Department • Service des eaux et des déchets

December 15, 2010

Mr. Nick Cannon
Transcontinental LGM - Coronet
737 Moray Street
Winnipeg, Manitoba
R3J 3S9

Dear Mr. Cannon:

RE: WASTEWATER DISCHARGE LICENCE

Please find enclosed your Wastewater Discharge Licence for 2011-2015.

If you have any questions concerning your licence, please contact me by phone at 986-4813 or by email at dsteele@winnipeg.ca.

Yours truly,

D Steele

Dorothy Steele, B.A., B.Sc., CRSP
Special Waste Services Technician

Enclosure

Environmental Standards Division • Division des normes environnementales
2230 Main Street. • 2230, rue Main • Winnipeg • Manitoba R2V 4T8
fax/téléc. (204) 339-2147 • www.winnipeg.ca

Winnipeg

Water and Waste Department • Service des eaux et des déchets

2011- 2015 Wastewater Discharge Licence

Sewer By-law No. 92/2010

File Number:

Company and Contact Information

Company Name: **Transcontinental LGM - Coronet**
Location: **737 Moray Street, Winnipeg, Manitoba, R3J 3S9**
Contact: **Nick Cannon**
Phone Number: **(204) 982-1717**
Fax Number:
Email:

Licence Information

Licence Number: **IW-TRANS – 2015**
Date Issued: **November 22, 2010**
Effective Date: **January 1, 2011**
Valid Until: **December 31, 2015**

Conditions of Agreement

- **Transcontinental LGM – Coronet** is granted permission to discharge well water into a land drainage sewer located at **737 Moray Street**.
- Wastewater to be discharged into the wastewater system must not contain any of the substances set out in Schedule A or substances with concentrations that exceed the limits set out in Schedule B.
- Wastewater to be discharged into the land drainage system must not contain any of the substances set out in Schedule C or substances with concentrations that exceed the limits set out in Schedule D.
- The licence holder must comply with the conditions specified on this licence and all clauses of the City of Winnipeg Sewer By-law No. 92/2010. See back of licence for reference.
- This Wastewater Discharge Licence is issued for a maximum of **five** calendar years and is renewable annually by January 1st.
- In the event that a licence holder does not meet the requirements of the Wastewater Discharge Licence, the licence shall be subject to suspension or cancellation by the City of Winnipeg.
- This licence may be cancelled or suspended if it is determined that the wastewater cannot be accommodated and treated within the wastewater or land drainage systems.
- The licence holder must, within ten business days, inform a designated employee of any changes to the information submitted in the application, and a failure to do so voids the licence.

Specific Conditions/Restrictions

- Maximum discharge rate shall not exceed 0.45 C.F.S. (200 U.S. gpm).
- Discharge would only occur in an emergency situation.
- Discharge is from cooling purposes only.
- Discharge will be diverted to a return well during the winter months. Discharge shall be limited to the period between June 1 to November 15 annually. Discharge prior to June 1 will require prior permission from The City of Winnipeg.
- Appropriate backflow prevention must be incorporated on the discharge flow. This device shall be provided for and maintained by the applicant.
- The applicant must provide a shut-off valve to the land drainage sewer. City of Winnipeg personnel shall be allowed access to the shut-off valve to control flow during flood conditions or other emergency conditions.
- If any party suffers loss or damage as a result of the discharge, the applicant will indemnify The City of Winnipeg.

Winnipeg

Water and Waste Department • Service des eaux et des déchets

- The City of Winnipeg reserves the right to restrict discharge in periods in which it deems the discharge a threat to its system or other customers.
- Prior approval must be obtained from The City of Winnipeg to make any modification to the proposed connection to the land drainage sewer or to the location and/or operation of the emergency shut-off switch.

Signature: _____

Mr. Nick Cannon
General Manager
Transcontinental LGM - Coronet

Recommended By: M. Marsland

Ms. Meghan Marsland
Supervisor,
Industrial Waste Services Branch

Date: _____

Approved By: _____

Mr. Kelly J. T. Kjartanson, P.Eng.
Manager,
Environmental Standards Division

APPENDIX G

WELL LICENSE

MG-14854 (English)

Licence to Use Water for Industrial and Air Cooling Purposes

Manitoba
Manitoba Water Stewardship
Regulatory and Operational Services Division
200 Saulteaux Cresc.
Winnipeg, Manitoba
R3J 3W3

Issued in accordance with the provisions of
The Water Rights Act and regulations made thereunder.

Licence No.: **2010-081**
(Original Lic. No.: 93-13)
U.T.M.: Zone 14 624939 E
5528749 N

Know all men by these presents that in consideration of and subject to the provisos, conditions and restrictions hereinafter contained, the Minister of Water Stewardship for the Province of Manitoba does by these presents give full right and liberty, leave and licence to **Transcontinental LGM - Coronet** of **The City of Winnipeg** in the Province of Manitoba (hereinafter called "the LICENSEE") to divert water from a **fractured limestone** aquifer by means of two water wells, pumps, pipeline(s) and other appurtenances (hereinafter called "the WORKS"), located on the following described lands:

Lots 1 and 2, Block 2, Plan 11955 WLTO and SP Lot 6, Plan 22348 WLTO, more particularly described on Certificate of Title No. 1689097 WLTO,

and more particularly shown on a plan filed in the office of the Executive Director, Regulatory and Operational Services Division, a copy of which plan is hereto attached and marked Exhibit "A" for **industrial and air cooling** purposes on the following described lands:

Lots 1 and 2, Block 2, Plan 11955 WLTO and SP Lot 6, Plan 22348 WLTO, more particularly described on Certificate of Title No. 1689097 WLTO.

This licence is issued upon the express condition that it shall be subject to the provisions of The Water Rights Act and Regulations and all amendments thereto and, without limiting the generality of the aforesaid, to the following terms and conditions, namely:

1. The water shall be used solely for **industrial and air cooling** purposes.

2. The WORKS shall be operated in accordance with the terms herein contained.

3. a) The maximum rate at which water may be diverted pursuant hereto shall not exceed **0.025 cubic metres per second (0.9 cubic feet per second)** .

   b) The total quantity of water diverted in any one year shall not exceed **756 cubic decametres (612.90 acre feet)** .

4. Water shall not be diverted during any period when the water level in the aquifer as measured at:

   a) North Supply Well is more than 27.9 metres (90.0 feet) beneath the surface of the ground.
   b) South Supply Well is more than 28.0 metres (92.0 feet) beneath the surface of the ground.

5. The LICENSEE does hereby remise, release and forever discharge Her Majesty the Queen in Right of the Province of Manitoba, of and from all manner of action, causes of action, claims and demands whatsoever which against Her Majesty the LICENSEE ever had, now has or may hereafter have, resulting from the use of water for **industrial and air cooling** purposes.

6. In the event that the rights of others are infringed upon and/or damage to the property of others is sustained as a result of the operation or maintenance of the WORKS and the rights herein granted, the LICENSEE shall be solely responsible and shall save harmless and fully indemnify Her Majesty the Queen in Right of the Province of Manitoba, from and against any liability to which Her Majesty may become liable by virtue of the issue of this Licence and anything done pursuant hereto.

7. This Licence is not assignable or transferable by the LICENSEE and when no longer required by the LICENSEE this Licence shall be returned to the Executive Director, Regulatory and Operational Services Division, for cancellation on behalf of the Minister.

8. Upon the execution of this Licence the LICENSEE hereby grants the Minister or the Minister's agents the right of ingress and egress to and from the lands on which the WORKS are located for the purpose of inspection of the WORKS and the LICENSEE shall at all times comply with such directions and/or orders that may be given by the Minister or the Minister's agents in writing from time to time with regard to the operation and maintenance of the WORKS.

9. This Licence may be amended, suspended or cancelled by the Minister in accordance with The Water Rights Act by letter addressed to the LICENSEE at **737 Moray Street, Winnipeg, MB, R3J 3S9, Canada** and thereafter this Licence shall be determined to be at an end.

10. Notwithstanding anything preceding in this Licence, the LICENSEE must have legal control, by ownership or by rental, lease, or other agreement, of the lands on which the WORKS shall be placed and the water shall be used.

11. The term of this Licence shall be **ten (10) years** and this Licence shall become effective only on the date of execution hereof by a person so authorized in the Department of Water Stewardship. The LICENSEE may apply for renewal of this Licence not more than 365 days and not less than 90 days prior to the expiry date.

12. This Licence expires automatically upon the loss of the legal control of any of the lands on which the WORKS are located or on which water is used, unless the Licence is transferred or amended by the Minister upon application for Licence transfer or amendment.

13. Records of the following shall be kept by the LICENSEE:
    (a) Quantities of water withdrawn from the said production well(s) weekly and annually, and
    (b) Static and pumping levels at the said production well(s) as requested from time to time by the Executive Director, Regulatory and Operational Services Division, and
    (c) Temperatures, weekly of the water being withdrawn from and returned to the aquifer,

    and copies of such records shall be furnished to the Executive Director, Regulatory and Operational Services Division, and/or his agents not later than February 1st of the following year.

14. A flow meter must be installed, positioned to accurately measure instantaneous pumping rate and accumulative withdrawals from the water source.

15. The LICENSEE does hereby agree to correct, to the satisfaction of the Minister, any water supply problems to wells or other forms of supply, which were constructed and operating prior to the date of application for the original Licence (No. 93-13), and which are partly or wholly attributable, in the opinion of the Minister, to the diversion of water as authorized by this Licence.

16. The LICENSEE shall hold and maintain all other regulatory approvals that may be required and shall comply with all other regulatory requirements for the construction, operation, or maintenance of the WORKS or to divert or use water as provided by this Licence.

17. No water shall be returned when the temperature of the recharge water is:
    (a) Above 12 degrees Celsius, or
    (b) Below 1.5 degrees Celsius.

18. Unless otherwise authorized or directed by the Minister or his agents, all water diverted as authorized by this Licence shall be returned to the aquifer from which it is diverted, unchanged as to chemical quality, by means of two return wells located as shown on the said Exhibit "A".

In witness whereof I the undersigned hereby agree to accept the aforesaid Licence on the terms and conditions set forth therein and hereby set my hand and seal this 17th day of FEBUARY A.D. 20 11.

SIGNED, SEALED AND DELIVERED
in the presence of

Witness } Licensee (Seal)

Canada, PROVINCE OF MANITOBA To Wit:

I, KEITH ROY of the CITY

of WINNIPEG in the Province of Manitoba, MAKE OATH AND SAY:

1. That I was personally present and did see JASON TOO, the within named party, execute the within Instrument.
2. That I know the said JASON TOP. and am satisfied that he/she is of the full age of eighteen years.
3. That the said Instrument was executed at 260 (TRANSCONTINENTAL) WINNIPEG aforesaid and that I am subscribing witness thereto.

SWORN BEFORE me at the

in the Province of Manitoba this day of A.D. 20 .

A COMMISSIONER FOR OATHS } Witness
in and for the Province of Manitoba

My Commission expires

Issued at the City of Winnipeg, in the Province of Manitoba, this 1 day of MARCH A.D. 20 11.

The Honourable the Minister of Water Stewardship

Location of Supply and Return Wells
For Transcontinental LGM - Cornet
737 Moray Street, Winnipeg, Manitoba

EXHIBIT "A"
THIS IS AN INTEGRAL PART OF
LICENCE NO. 2010-081
ISSUED UNDER THE WATER RIGHTS ACT

APPENDIX H

ROOF DIAGRAM


RTU 10
RTU 9
RTU 7 Removed
RTU 6
RTU 8
RTU 14 Removed
RTU 16
FH 1
FH 2
RTU 5
Dust collector
Stack and duct work removed
RTU 3
RTU 4
RTU 2
AMU-H
RTU 1
AMU-D
AMU-F
AMU-G
MEGTEC regenerative thermal oxidizer
N

Unit	Status	Equip_SN	Model_No	Manufacturer	In service date
RTU-1 Air Conditioner	Active	3005G40184	48TFE005-A-511	Carrier	Aug 2005
RTU-2 Air Conditioner	Active	YCLMO28746	SHPE-48-25-25 Electric Heat Pump	York	
RTU-3 Air Conditioner	Active	N0F6583853	DM090N15P5AAA4A 160,000 BTU	York	Nov 2006
RTU.4 Air Conditioner	Active	4702G20277	48TFE005-A-111	Carrier	In Service Jan13 03
RTU-5 Air Conditioner	Active		48TF004-007 150,000 BTU	Carrier	June 2006
RTU-6 Air Conditioner	Active	N0K6981105	D8CG060N09958A 200,000 BTU	York	Nov 2006
RTU-7 Air Conditioner	Removed	TCF73576	SA61-58A 160,000 BTU	York	1972
RTU-8 Air Conditioner	Active	RD3-95-3	GCS3-953-250A-9 250,000 BTU	Lennox	
RTU.9 Air Conditioner	Active	2503G30422	48TFF005-A-111	Carrier	In Service Jul 8 03
RTU.10 Air Conditioner	Active	0203G30133	48TF004-A-511	Carrier	In Service Jul 21 03
RTU-14 Air Conditioner	Removed	S173	FW4-102/5300-0V6 300,000 BTU	Engineered Air	
RTU-16 Air Conditioner	Active		Mod 48TMO16-028	Carrier	In Service Aug 2008
AMU-D Air Make Up Unit	Active	895023	BMA-50 1,009,000 BTU	ICE Manufacturing	
AMU-F Air Make-Up Unit	Active	Job No.35007 (R3973) 535007MUA1	HE-70-0 600,000 BTU	Engineered Air	Start Up Mar 16 03
AMU-G Air Make-Up Unit	Active	895023	BMA-50-MODHDA 660,000 BTU	ICE Manufacturing	Mar 2005 @ LGM, From Dunlop Plant
AMU-H Air Make-Up Unit	Active		HE321/C/D	Engineered Air	Oct 2005
FH-1 Fume hood exhaust (kitchen)	Active	DEF 001	309	Delhi	1972
FH-2 Fume hood exhaust (pre-press)	Active	DEF 002	309	Delhi	1972
Dust collector	Active	1G516981-001	PF-T2-16	Medus	In Service Sept. 2007

APPENDIX I

CORPORATE POLICY ON OXIDIZER MAINTENANCE

TRANSCONTINENTAL

Corporate directives regarding the preventive maintenance of equipments under environmental regulation

It is the responsibility of each facility to establish a preventive maintenance programme that includes at least the following items:

Oxidizers:

- **Monthly basis preventive maintenance on:**
  - **Lubrication**
  - **Control cabinet (readings).**
  - **Running temperature.**
  - **Fault listing of the previous month.**
  - **Blowers (vibration, hot points, unusual noise).**
  - **High pressure releases.**
  - **Natural gas releases (scent).**
  - **Releases from ducting or machine itself (smoke, condensate, scent)**

- **Complete annual maintenance done by the manufacturer or by an authorized company supplying a written report. The maintenance must include internal and external inspection of the oxidizers.**
  - **Gas train, burner and complete flame control and safety devices verification.**
  - **All electrical, pneumatic and mechanical systems verification.**
  - **Looking for cracks or damage to the structure and ducting.**
  - **Annual analysis of the catalytic media, if any, detailed in a written report.**
  - **Action plan, scheduled and done in compliance with recommendations from the verification reports.**
  - **Annual analysis by thermal imaging including a written report prior to the annual maintenance.**

Dust and paper collectors:

- **Monthly basis preventive maintenance:**
  - **Check up blowers (vibration, belts, couplings, hot points, unusual noise).**
  - **Lubrication of rotating elements.**
  - **Check up of sequencer.**
  - **Check up high pressure releases.**
  - **Check up of pneumatic valves.**
  - **Check up of air balancing.**
  - **Check up of internal pressure.**
  - **Check up the filtering elements and replace upon need.**
  - **Paper and dust releases and build up.**
  - **Area cleaning and fire hazardous situations.**

Oil – water separators, neutralizers, tanks, some cooling systems and others:

- **Monthly basic preventive maintenance :**
  - **Visual check up.**
- **Complete annual maintenance by the manufacturer or by an authorized company supplying a written report.**
- **Conduct a complete annual testing of releases or working conditions and verify the compliance with threshold level set by applicable regulations.**

Record all maintenance activities in the monthly report and attach the written reports to it or keep in section 12 of facility's EMS.

APPENDIX J

PRODUCTS USED AND MATERIAL DATA SAFETY SHEETS

Product Tyoe	MSDS #	Product Name	Manufacturer	Estimated annual quantities (kg)
Inks	1	Low Tack News - BLACK	Sun Chemical	8,500
	2	Low Tack News - CYAN	Sun Chemical	9,200
	3	Low Tack News MAGENTA	Sun Chemical	8,200
	4	Low Tack News -YELLOW	Sun Chemical	8,700
	5	PS48-09- BLACK	Sun Chemical	2,300
	6	PS58-05- CYAN	Sun Chemical	3,100
	7	PS55-04 - MAGENTA	Sun Chemical	2,300
	8	PS55-02 - YELLOW	Sun Chemical	3,200
	9	Cover (UV Coatable)	Sun Chemical	800
	10	Cover (UV Coatable)	Sun Chemical	600
	11	Cover (UV Coatable)	Sun Chemical	600
	12	Cover (UV Coatable)	Sun Chemical	600
	13	FTCN204400 mt BLACK	Flint	25,600
	14	FTCN224400 mt CYAN	Flint	27,400
	15	FTCN224400 mt MAGENTA	Flint	24,600
	16	FTCN224400 mt YELLOW	Flint	26,000
	17	FTCN203090 lt BLACK	Flint	7,000
	18	FTCN223090 lt CYAN	Flint	9,300
	19	FTCN243090 lt MAGENTA	Flint	6,900
Press Cleaning Blanket Wash	20	V-313 Blue	Varn	25,800
	21	V-324	Varn	6,300
	22	Saphira PW-3207A	Nova Heidelberg	5,000
Impregnated rolls	23	Prepac Auto wash (5192 rolls per year, 0.21lbs liguid per roll))	Baldwin	20
Concentrated Fountain Solution	24	Emerald Premium KDHP 20357	Fuji	11,500
	25	Emerald Premium MXEH-M 2018	Fuji	1,700
Other	26	Rubber Rejuvenator	United Chemical Service	570

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 91115191

Product name : FFTWH9182043 WOH PROCESS BLACK

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 6/28/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Black.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Linseed oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Black.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 227°C (440°F)

Melting/freezing point : May start to solidify at the following temperature: 36 to 60°C (96.8 to 140°F) This is based on data for the following ingredient: Petrolatum.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 31.22%

Auto-ignition temperature : Lowest known value: >290°C (>554°F) (Petrolatum).

Flammable limits : Not tested

Vapor pressure : Not available.

9 . Physical and chemical properties

Density : 1.074 g/cm³ (8.964 lbs/gal)

Solubility : Insoluble in the following materials: cold water and hot water.

Viscosity : Not available.

Vapor density : Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)

Evaporation rate : Highest known value: <1 (Distillates (petroleum), hydrotreated middle) Weighted average: 0.9compared with butyl acetate

Molecular weight : Not applicable.

Molecular formula : Not applicable.

Critical temperature : Not available.

Ionicity (in water) : Not available.

Dispersibility properties : Not available.

Physical/chemical properties comments : Not available.

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C. I. Pigment Black 7	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

12 . Ecological information

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

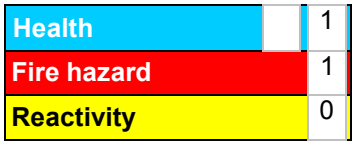
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **6.03**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFTWH9182043

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 91230477

Product name : FFVWH5182333 WOH PROCESS CYAN

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 7/24/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Blue.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Blue.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 100°C (212°F)

Melting/freezing point : May start to solidify at the following temperature: 0°C (32°F) This is based on data for the following ingredient: Water..

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

9 . Physical and chemical properties

VOC	:	28.49%
Auto-ignition temperature	:	Lowest known value: 444.85°C (832.7°F) (Soybean oil).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.069 g/cm³ (8.922 lbs/gal)
Solubility	:	Insoluble in the following materials: cold water and hot water.
Viscosity	:	Not available.
Vapor density	:	Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Severely Treated Light Naphthenic Distillate) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C.I. Pigment Blue 15	LD Oral	Rat	>15 g/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

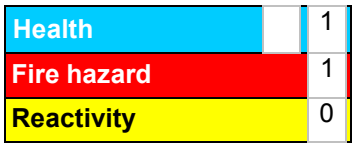
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **5**

Notice to reader

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFVWH5182333

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 91230557

Product name : FFVWH4182334 WOH PROCESS MAGENTA

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 8/16/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Red.

WHMIS (Classification) : Not controlled under WHMIS (Canada).

:

Emergency overview : CAUTION!

Moderately irritating to eyes. Slightly irritating to the skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : Moderately irritating to eyes.

Skin : Slightly irritating to the skin.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, skin, eyes, central nervous system (CNS), stomach.

Medical conditions aggravated by over-exposure : None known.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Hazardous ingredients	CAS number	%
Dipropylene Glycol Monobutyl Ether	29911-28-2	1 - 2.5

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency

6 . Accidental release measures

contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state	:	Liquid.
Color	:	Red.
Taste	:	Not available.
Odor	:	Not available.
Odor threshold	:	Not applicable.
pH	:	Not tested
Boiling/condensation point	:	Lowest known value: 218°C (424°F)
Melting/freezing point	:	May start to solidify at the following temperature: <-75°C (<-103°F) This is based on data for the following ingredient: Dipropylene Glycol Monobutyl Ether.
Flash point	:	Lowest known value: >93.3°C (200°F) (Closed cup)
VOC	:	29.34%
Auto-ignition temperature	:	Lowest known value: 194°C (381.2°F) (Dipropylene Glycol Monobutyl Ether).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.076 g/cm³ (8.981 lbs/gal)
Solubility	:	Insoluble in the following materials: cold water and hot water.
Viscosity	:	Not available.
Vapor density	:	Highest known value: 6.6 (Air = 1) (Dipropylene Glycol Monobutyl Ether). Weighted average: 1.43 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Soybean oil) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

11 . Toxicological information

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

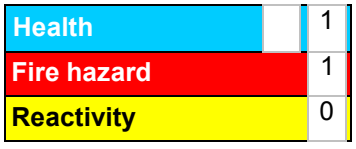
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **5**

Notice to reader

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFVWH4182334

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 91230553

Product name : FFVWH2182335 WOH PROCESS YELLOW

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 8/21/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Yellow.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Yellow.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 100°C (212°F)

Melting/freezing point : May start to solidify at the following temperature: 0°C (32°F) This is based on data for the following ingredient: Water..

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

9 . Physical and chemical properties

VOC	:	29.79%
Auto-ignition temperature	:	Lowest known value: 444.85°C (832.7°F) (Soybean oil).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.063 g/cm³ (8.871 lbs/gal)
Solubility	:	Insoluble in the following materials: cold water and hot water.
Viscosity	:	Not available.
Vapor density	:	Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Distillates (petroleum), hydrotreated middle) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

12 . Ecological information

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : At least one component is not listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :

Health	1
Fire hazard	1
Reactivity	0

References : Not available.

Other special considerations : Not available.

Version : **8**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFVWH2182335

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 91020291

Product name : PS48-09 WOH PROCESS BLACK

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 11/25/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Black.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Black.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 227°C (440°F)

Melting/freezing point : Not available.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 33.17%

Auto-ignition temperature : Lowest known value: 342.85°C (649.1°F) (Linseed oil).

Flammable limits : Not tested

Vapor pressure : Not available.

Density : 1.049 g/cm³ (8.755 lbs/gal)

Solubility : Not available.

9 . Physical and chemical properties

Viscosity : Not available.

Vapor density : Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)

Evaporation rate : Highest known value: <1 (Distillates (petroleum), hydrotreated middle) Weighted average: 0.9compared with butyl acetate

Molecular weight : Not applicable.

Molecular formula : Not applicable.

Critical temperature : Not available.

Ionicity (in water) : Not available.

Dispersibility properties : Not available.

Physical/chemical properties comments : Not available.

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C. I. Pigment Black 7	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

12 . Ecological information

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

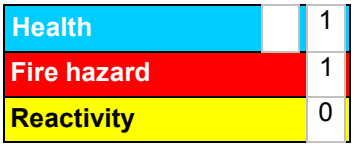
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **9.01**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PS48-09

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 90995912

Product name : PS58-05 WOHS PROCESS CYAN

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 6/26/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Blue.

WHMIS (Classification) : Not controlled under WHMIS (Canada).

:

Emergency overview : DANGER!

Irritating to eyes and respiratory system. May cause sensitization by inhalation. Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : Irritating to eyes.

Skin : May cause mild skin irritation.

Inhalation : Irritating to respiratory system. May cause sensitization by inhalation. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, skin, eyes, central nervous system (CNS), stomach.

Medical conditions aggravated by over-exposure : Pre-existing respiratory disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Hazardous ingredients	CAS number	%
Clay	1332-58-7	1 - 2.5

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6 . Accidental release measures

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Clay **ACGIH TLV (United States, 1/2011).**
TWA: 2 mg/m³ 8 hour(s). Form: Respirable fraction

Consult local authorities for acceptable exposure limits.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

8 . Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.
Color : Blue.
Taste : Not available.
Odor : Not available.
Odor threshold : Not applicable.
pH : Not tested
Boiling/condensation point : Lowest known value: 227°C (440°F)
Melting/freezing point : Not available.
Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)
VOC : 35.01%
Auto-ignition temperature : Lowest known value: 342.85°C (649.1°F) (Linseed oil).
Flammable limits : Not tested
Vapor pressure : Not available.
Density : 1.002 g/cm³ (8.366 lbs/gal)
Solubility : Insoluble in the following materials: cold water and hot water.
Viscosity : Not available.
Vapor density : Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate : Highest known value: <1 (Severely Treated Light Naphthenic Distillate) Weighted average: 0.9compared with butyl acetate
Molecular weight : Not applicable.
Molecular formula : Not applicable.
Critical temperature : Not available.
Ionicity (in water) : Not available.
Dispersibility properties : Not available.
Physical/chemical properties comments : Not available.

10 . Stability and reactivity

Stability and reactivity : The product is stable.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C.I. Pigment Blue 15	LD Oral	Rat	>15 g/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

11 . Toxicological information

Conclusion/Summary : No known significant effects or critical hazards.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Clay	A4	-	-	-	-	-

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :

Health	*	1
Fire hazard		1
Reactivity		0

References : Not available.

Other special considerations : Not available.

Version : **10**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PS58-05

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : 90995964

Product name : PS55-04 WOHS PROCESS MAGENTA

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 7/10/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Red.

WHMIS (Classification) : Not controlled under WHMIS (Canada).

:

Emergency overview : CAUTION!

Moderately irritating to eyes. Slightly irritating to the skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : Moderately irritating to eyes.

Skin : Slightly irritating to the skin.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, upper respiratory tract, skin, eyes, central nervous system (CNS), stomach.

Medical conditions aggravated by over-exposure : None known.

See toxicological information (Section 11)

3 . Composition/information on ingredients

Hazardous ingredients	CAS number	%
Dipropylene Glycol Monobutyl Ether	29911-28-2	1 - 2.5

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency

6 . Accidental release measures

contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state	:	Liquid.
Color	:	Red.
Taste	:	Not available.
Odor	:	Not available.
Odor threshold	:	Not applicable.
pH	:	Not tested
Boiling/condensation point	:	Lowest known value: 218°C (424°F)
Melting/freezing point	:	May start to solidify at the following temperature: <-75°C (<-103°F) This is based on data for the following ingredient: Dipropylene Glycol Monobutyl Ether.
Flash point	:	Lowest known value: >93.3°C (200°F) (Closed cup)
VOC	:	31.14%
Auto-ignition temperature	:	Lowest known value: 194°C (381.2°F) (Dipropylene Glycol Monobutyl Ether).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.017 g/cm³ (8.49 lbs/gal)
Solubility	:	Insoluble in the following materials: cold water and hot water.
Viscosity	:	Not available.
Vapor density	:	Highest known value: 6.6 (Air = 1) (Dipropylene Glycol Monobutyl Ether). Weighted average: 1.36 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Soybean oil) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

11 . Toxicological information

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

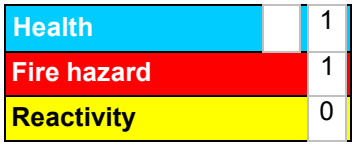
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **9**

Notice to reader

16 . Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PS55-04

Material Safety Data Sheet

1 . Product and company identification

Product code : 90996026

Product name : PS55-02 WOHS PROCESS YELLOW

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 8/21/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Yellow.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Yellow.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 227°C (440°F)

Melting/freezing point : Not available.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 36.55%

9 . Physical and chemical properties

Auto-ignition temperature	:	Lowest known value: 342.85°C (649.1°F) (Linseed oil).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.005 g/cm³ (8.391 lbs/gal)
Solubility	:	Insoluble in the following materials: cold water and hot water.
Viscosity	:	Not available.
Vapor density	:	Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Distillates (petroleum), hydrotreated middle) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary	:	No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary	:	No known significant effects or critical hazards.
Synergistic products	:	Not available.

12 . Ecological information

Environmental effects	:	No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary	:	Not available.

Biodegradability

Conclusion/Summary	:	Not available.
Partition coefficient: n-octanol/water	:	Not applicable.
Bioconcentration factor	:	Not available.

12 . Ecological information

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

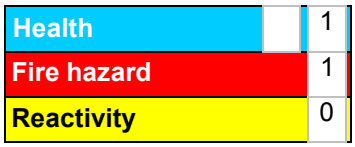
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : At least one component is not listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **8**

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

PS55-02

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : FFOWH9189951

Product name : WOHS PROCESS BLACK

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 1/30/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Black.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Black.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 227°C (440°F)

Melting/freezing point : Not available.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 32.25%

Auto-ignition temperature : Lowest known value: 444.85°C (832.7°F) (Soybean oil).

Flammable limits : Not tested

Vapor pressure : Not available.

Density : 1.064 g/cm³ (8.883 lbs/gal)

9 . Physical and chemical properties

Solubility : Not available.

Viscosity : Not available.

Vapor density : Highest known value: >1 (Air = 1) (Severely Treated Light Naphthenic Distillate). Weighted average: 1.1 (Air = 1)

Evaporation rate : Highest known value: <1 (Severely Treated Light Naphthenic Distillate) Weighted average: 0.9compared with butyl acetate

Molecular weight : Not applicable.

Molecular formula : Not applicable.

Critical temperature : Not available.

Ionicity (in water) : Not available.

Dispersibility properties : Not available.

Physical/chemical properties comments : Not available.

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C. I. Pigment Black 7	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

12 . Ecological information

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

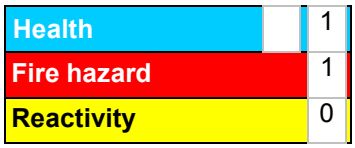
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **5**

Notice to reader

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FFOWH9189951

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : FFOWH5189952

Product name : WOHS PROCESS BLUE

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 3/1/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Blue.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Blue.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 227°C (440°F)

Melting/freezing point : Not available.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 33.87%

9 . Physical and chemical properties

Auto-ignition temperature	:	Lowest known value: 444.85°C (832.7°F) (Soybean oil).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	0.991 g/cm³ (8.272 lbs/gal)
Solubility	:	Not available.
Viscosity	:	Not available.
Vapor density	:	Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Alcohols, C11-14-iso-, C13-rich) Weighted average: 0. 9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C.I. Pigment Blue 15	LD Oral	Rat	>15 g/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

12 . Ecological information

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

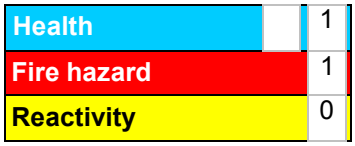
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **7.01**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFOWH5189952

16 . Other information

SunChemical
a member of the DIC group

Material Safety Data Sheet

1 . Product and company identification

Product code : FFOWH2189954

Product name : YELLOW WOH PROCESS

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 1/28/2014.

2 . Hazards identification

Physical state : Liquid.

Color : Yellow.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Yellow.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 150°C (302°F)

Melting/freezing point : May start to solidify at the following temperature: 0°C (32°F) This is based on data for the following ingredient: Severely Treated Light Naphthenic Distillate. Weighted average: -12.64°C (9.2°F)

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 42.17%

9 . Physical and chemical properties

Auto-ignition temperature : Lowest known value: 225°C (437°F) (Sweetened Middle Distillate).

Flammable limits : Not tested

Vapor pressure : Not available.

Density : 0.975 g/cm³ (8.137 lbs/gal)

Solubility : Not available.

Viscosity : Not available.

Vapor density : Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)

Evaporation rate : Highest known value: <1 (Severely Treated Light Naphthenic Distillate) Weighted average: 0.9compared with butyl acetate

Molecular weight : Not applicable.

Molecular formula : Not applicable.

Critical temperature : Not available.

Ionicity (in water) : Not available.

Dispersibility properties : Not available.

Physical/chemical properties comments : Not available.

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Reactivity - Light : Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

12 . Ecological information

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

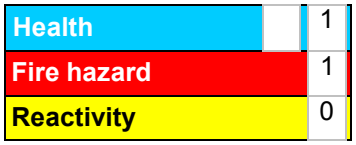
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : At least one component is not listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **7.01**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFOWH2189954

Material Safety Data Sheet

1 . Product and company identification

Product code : FFOWH4189953

Product name : WOHS PROCESS RED

Material uses : Printing. Colorant.

Manufacturer/ Distributor : Sun Chemical Limited
10 West Drive
Brampton, Ontario
L6T 4Y4

In case of emergency : (800) 424-9300 (U.S.)
(703) 527-3887 (International)

Regulatory information : Canada: (905) 796-2222
US: (201) 933-4500

Other information : (513) 830-8500

Date of revision : 3/1/2013.

2 . Hazards identification

Physical state : Liquid.

Color : Red.

:

WHMIS (Classification) : **Not controlled under WHMIS (Canada).**

Emergency overview : No known significant effects or critical hazards.

Routes of entry Dermal contact. Inhalation.

Potential acute health effects

Eyes : May cause mild eye irritation.

Skin : May cause mild skin irritation.

Inhalation : Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : No known significant effects or critical hazards.

Potential chronic health effects(Long term exposure)

Carcinogenic effects : No known significant effects or critical hazards.

Mutagenic effects : No known significant effects or critical hazards.

Teratogenicity / Reproductive toxicity : No known significant effects or critical hazards.

See toxicological information (Section 11)

3 . Composition/information on ingredients

No hazardous ingredient

Within the present knowledge of the supplier, this product does not contain any hazardous ingredients in quantities requiring reporting, in accordance with local regulations.

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Flammability (OSHA criteria) : IIIB

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Special remarks on fire hazards : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Soybean oil)

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9 . Physical and chemical properties

Physical state : Liquid.

Color : Red.

Taste : Not available.

Odor : Not available.

Odor threshold : Not applicable.

pH : Not tested

Boiling/condensation point : Lowest known value: 240°C (464°F)

Melting/freezing point : Not available.

Flash point : Lowest known value: >93.3°C (200°F) (Closed cup)

VOC : 29.2%

9 . Physical and chemical properties

Auto-ignition temperature	:	Lowest known value: 260 to 371°C (500 to 699.8°F) (Technical White Oil).
Flammable limits	:	Not tested
Vapor pressure	:	Not available.
Density	:	1.016 g/cm³ (8.475 lbs/gal)
Solubility	:	Not available.
Viscosity	:	Not available.
Vapor density	:	Highest known value: >1 (Air = 1) (Petroleum Middle Distillate). Weighted average: 1.1 (Air = 1)
Evaporation rate	:	Highest known value: <1 (Severely Treated Light Naphthenic Distillate) Weighted average: 0.9compared with butyl acetate
Molecular weight	:	Not applicable.
Molecular formula	:	Not applicable.
Critical temperature	:	Not available.
Ionicity (in water)	:	Not available.
Dispersibility properties	:	Not available.
Physical/chemical properties comments	:	Not available.

10 . Stability and reactivity

Stability and reactivity	:	The product is stable.
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.
Reactivity - Light	:	Not applicable.

11 . Toxicological information

Acute toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Chronic toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Carcinogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Mutagenicity

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : No known significant effects or critical hazards.

Synergistic products : Not available.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Biodegradability

Conclusion/Summary : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Bioconcentration factor : Not available.

12 . Ecological information

Mobility : Not available.

Toxicity of the products of biodegradation : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Refer to protective measures listed in sections 7 and 8.
Empty containers or liners may retain some product residues.

14 . Transport information

Not regulated.

15 . Regulatory information

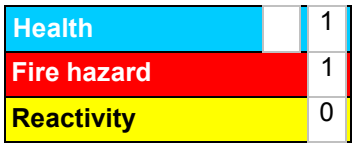
WHMIS (Classification) : Not controlled under WHMIS (Canada).

CANADA INVENTORY (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16 . Other information

Hazardous Material Information System (U.S.A.) :



References : Not available.

Other special considerations : Not available.

Version : **5.01**

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

FFOWH4189953

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL MID TACK BLACK
Product Code: FTCN204400
MSDS Code: MSD-00448313
Revision Number: 29
Revision Date: 2012-05-07 09:10:47

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
Linseed oil	0.5 - 1.5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Routes of Entry: Inhalation, Ingestion, Skin contact, Eye contact
Medical Conditions Aggravated: No medical conditions affected by exposure.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: May be mildly irritating to the mouth, throat and stomach.

Long-Term (Chronic) Health Effects

Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation: Upon prolonged and/or repeated exposure, can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.

Skin Contact:	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide
Flash Point:	93 C (200 F) and greater
Firepoint:	Firepoint not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No adverse health affects expected from the clean-up of spilled material. Follow personal protective equipment recommendations found in Section VIII of this MSDS.

VII. HANDLING AND STORAGE

Handling Precautions:	Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Ground and bond containers when transferring material As with all chemicals, good industrial hygiene practices should be followed when handling this material. Remove contaminated clothing and wash before reuse.

Use with adequate ventilation
Use non-sparking tools when opening or closing containers.

Storage Conditions: Store in a cool dry place. Isolate from incompatible materials. Keep away from heat, sparks, and flame. Store in a tightly closed container. Do not store in direct sunlight.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Respiratory Protection: General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.

Eye Protection: Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.

Skin Protection: Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
Linseed oil		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	36.66
Volatiles, % by vol:	45.77
Volatile Organic Chemicals % by wt:	36.53
Volatile Organic Chemicals % by vol:	45.63
VOC lb/gal	3.04
VOC lb/gal (less water):	3.04
Solids % by weight:	63.34
Solids % by volume	54.23
Specific Gravity:	1.00
Bulk Density (Lb/Gal):	8.33

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.

Materials to Avoid/Chemical Incompatibility: Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
Linseed oil	No data available

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Not on list		NPRI (Cdn)	
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

References:

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

TORONTO

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL MID TACK CYAN
Product Code: FTCN224400
MSDS Code: MSD-00922423
Revision Number: 17
Revision Date: 2013-10-18 09:41:01

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
Kerosene (petroleum), Hydrodesulfurized	10 - 30
Straight-Run Middle Distillate (Petroleum)	0.5 - 1.5
Solvent naptha (petroleum) heavy aromatic C9 - C11	0.1 - 1

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Routes of Entry: Skin contact, Eye contact, Ingestion, Inhalation
Medical Conditions Aggravated: Respiratory disease including asthma and bronchitis

Immediate (Acute) Health Effects by Route of Exposure
Inhalation: Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. Harmful! Can cause systemic damage.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: Aspiration of material into the lungs can cause chemical pneumonitis.

Long-Term (Chronic) Health Effects
Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation: Upon prolonged and/or repeated exposure, can cause moderate respiratory

	irritation, dizziness, weakness, fatigue, nausea and headache.Harmful! Can cause systemic damage upon prolonged and/or repeated exposure.
Skin Contact:	Upon prolonged or repeated exposure, minimal hazard in normal industrial use. May cause gastrointestinal discomfort.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide
Flash Point:	93 C (200 F) and greater
Firepoint:	Firepoint not determined.
Autoignition Temperature:	Not determined deg. C deg F

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions:	Mildly irritating material. Avoid unnecessary exposure. Do not get in eyes, on skin or clothing.

Wash thoroughly after handling.

As with all chemicals, good industrial hygiene practices should be followed when handling this material.
Remove contaminated clothing and wash before reuse.
Ground and bond containers when transferring material

Storage Conditions: Store in a cool dry place. Isolate from incompatible materials. Store in a tightly closed container. Keep away from sources of ignition.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: General room ventilation might be required to maintain operator comfort under normal conditions of use.

Respiratory Protection: General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.

Eye Protection: Wear safety glasses with side shields when handling this product. Have an eye wash station available.

Skin Protection: Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
Kerosene (petroleum), Hydrodesulfurized Straight-Run Middle Distillate (Petroleum) Solvent naptha (petroleum) heavy aromatic C9 - C11		200 mg/m3 TWA		

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	41.67
Volatiles, % by vol:	50.2
Volatile Organic Chemicals % by wt:	38.06
Volatile Organic Chemicals % by vol:	46.64
VOC lb/gal	3.11
VOC lb/gal (less water):	3.21
Solids % by weight:	58.33
Solids % by volume	49.8
Boiling Point:	Not determined deg. C deg. F
Specific Gravity:	0.98

Bulk Density (Lb/Gal): 8.16

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.

Materials to Avoid/Chemical Incompatibility: Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
Kerosene (petroleum), Hydrodesulfurized	Inhalation LC50 Rat >5.2 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg
Straight-Run Middle Distillate (Petroleum)	Oral LD50 Rat 5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 1700 mg/m3 4 h
Solvent naptha (petroleum) heavy aromatic C9 - C11	No data available

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Hydrotreated light distillate	64742-47-8	NPRI (Cdn)	3.2
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

RETAIL MID TACK CYAN

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.
MONTREAL

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL MID TACK MAGENTA
Product Code: FTCN244400
MSDS Code: MSD-00952989
Revision Number: 18
Revision Date: 2013-12-20 09:07:00

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
Kerosene (petroleum), Hydrodesulfurized	10 - 30
calcium resinate	1 - 5
Straight-Run Middle Distillate (Petroleum)	1 - 5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Routes of Entry: Inhalation, Ingestion, Skin contact, Eye contact
Medical Conditions Aggravated: No medical conditions affected by exposure.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache. Harmful! Can cause systemic damage.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort. Aspiration of material into the lungs can cause chemical pneumonitis. Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects

Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than

	0.1% is mutagenic or genotoxic.
Inhalation:	Upon prolonged and/or repeated exposure, can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.Harmful! Can cause systemic damage upon prolonged and/or repeated exposure.
Skin Contact:	Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis. Upon prolonged or repeated exposure, minimal hazard in normal industrial use. May cause gastrointestinal discomfort.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	Minimal risk of harm if swallowed. Do not induce vomiting. Seek medical attention immediately. Provide medical care provider with this MSDS. No hazard expected under normal industrial use. If a large quantity is swallowed, seek medical attention. Do not induce vomiting.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire. Use process enclosures to control the level of dust in the air.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide
Flash Point:	93 C (200 F) and greater
Firepoint:	Firepoint not determined.
Autoignition Temperature:	Not determined deg. C deg F

VI. ACCIDENTAL RELEASE MEASURES

Personal	No health affects expected from the clean-up of this material if contact can be

Precautions and Equipment:	avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions:	Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material
Storage Conditions:	Store in a cool dry place. Isolate from incompatible materials. Store in a tightly closed container. Keep away from heat, sparks, and flame.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Respiratory Protection:	No respiratory protection required under normal conditions of use.
Eye Protection:	Wear safety glasses with side shields when handling this product. Have an eye wash station available.
Skin Protection:	Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
Kerosene (petroleum), Hydrodesulfurized calcium resinate Straight-Run Middle Distillate (Petroleum)		200 mg/m3 TWA		

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	37.12
Volatiles, % by vol:	45.88
Volatile Organic Chemicals % by wt:	36.96
Volatile Organic Chemicals % by vol:	45.71
VOC lb/gal	3.05

VOC lb/gal (less water):	3.05
Solids % by weight:	62.88
Solids % by volume	54.12
Boiling Point:	Not determined deg. C deg. F
Specific Gravity:	0.99
Bulk Density (Lb/Gal):	8.25

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents.
Hazardous Decomposition Products:	Toxic gases

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	**LD50/LC50**
Kerosene (petroleum), Hydrodesulfurized	Inhalation LC50 Rat >5.2 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg
calcium resinate	No data available
Straight-Run Middle Distillate (Petroleum)	Oral LD50 Rat 5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 1700 mg/m3 4 h

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product:	Spent or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	**CAS #**	**Regulation**	**Percentage**
Not on list		CERCLA	
Not on list		HAP	
Hydrotreated light distillate	64742-47-8	NPRI (Cdn)	4.25
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	**TSCA 12b list section**

Not on list

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

Disclaimer: Flint Group has prepared this Material Safety Data Sheet ("MSDS") in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

ETOWN

485 Millway Av.
Concord, ONT L4K-3V4

For Product Questions call: (514) 731-9405
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL MID-TACK HEATSET YELLOW
Product Code: FTCN274400
MSDS Code: MSD-00982791
Revision Number: 10
Revision Date: 2013-07-02 14:24:02

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	0.5 - 1.5
Straight-Run Middle Distillate (Petroleum)	0.5 - 1.5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation: Can cause minor respiratory irritation.
Skin Contact: Can cause minor skin irritation.
Eye Contact: Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
Ingestion: No hazard in normal industrial use.

Long-Term (Chronic) Health Effects

Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Skin Contact: Upon prolonged or repeated exposure, no hazard in normal industrial use.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by

weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen.
Eyes:	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.
Skin Contact:	Wash with soap and water.
Ingestion:	No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire. It has been reported that diarylide pigments may be subject to breakdown at temperatures above 200C (392F). This decomposition may produce monoazo dyes and 3,3'dichlorobenzidine. 3,3'dichlorobenzidine is a suspect human carcinogen. In the majority of printing inks and coatings systems, temperatures are lower and this thermal breakdown does not occur. It is recommended that diarylide pigments not be used under conditions where thermal breakdown can occur.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide
Flash Point:	93 C (200 F) and greater
Firepoint:	Firepoint not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions:	Mildly irritating material. Avoid unnecessary exposure. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Ground and bond containers when transferring material As with all chemicals, good industrial hygiene practices should be followed

when handling this material.

Storage Conditions: Store in a cool dry place. Isolate from incompatible materials.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Respiratory Protection: No respiratory protection required under normal conditions of use.

Eye Protection: Wear safety glasses with side shields when handling this product. Have an eye wash station available.

Skin Protection: Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate		No TLV	No STEL	Not on list
Straight-Run Middle Distillate (Petroleum)		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	43.66
Volatiles, % by vol:	51.88
Volatile Organic Chemicals % by wt:	43.4
Volatile Organic Chemicals % by vol:	51.63
VOC lb/gal	3.43
VOC lb/gal (less water):	3.44
Solids % by weight:	56.34
Solids % by volume	48.12
Specific Gravity:	0.95
Bulk Density (Lb/Gal):	7.91

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.

Materials to Avoid/Chemical Strong oxidizing agents.

Incompatibility:

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	Oral LD50 Rat >3200 mg/kg
Straight-Run Middle Distillate (Petroleum)	Oral LD50 Rat 5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 1700 mg/m3 4 h

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Hydrotreated light distillate	64742-47-8	NPRI (Cdn)	4.65
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

TORONTO

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL NEWS HIGH SPEED BLACK
Product Code: FTCN203090
MSDS Code: MSD-00992487
Revision Number: 4
Revision Date: 2013-07-02 13:50:01

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
Straight-Run Middle Distillate (Petroleum)	1 - 5
Linseed oil	0.5 - 1.5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Routes of Entry: Inhalation, Ingestion, Skin contact, Eye contact
Medical Conditions Aggravated: No medical conditions affected by exposure.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: No hazard in normal industrial use.

Long-Term (Chronic) Health Effects

Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation: Upon prolonged and/or repeated exposure, can cause minor respiratory

irritation, dizziness, weakness, fatigue, nausea, and headache.

Skin Contact: Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Eyes: Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

Ingestion: No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary: Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.

Fire and/or Explosion Hazards: Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire.

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Flash Point: 93 C (200 F) and greater

Firepoint: Firepoint not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions: Mildly irritating material. Avoid unnecessary exposure. As with all chemicals, good industrial hygiene practices should be followed when handling this material.
Wash thoroughly after handling.
Remove contaminated clothing and wash before reuse.

Do not get in eyes, on skin or clothing.

Storage Conditions: Store in a cool dry place. Isolate from incompatible materials. Store in a tightly closed container. Keep away from heat, sparks, and flame.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Respiratory Protection: General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.

Eye Protection: Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.

Skin Protection: Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
Straight-Run Middle Distillate (Petroleum)		No TLV	No STEL	Not on list
Linseed oil		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	37.24
Volatiles, % by vol:	47.25
Volatile Organic Chemicals % by wt:	33.64
Volatile Organic Chemicals % by vol:	43.29
VOC lb/gal	2.91
VOC lb/gal (less water):	2.95
Solids % by weight:	62.76
Solids % by volume	52.75
Specific Gravity:	1.04
Bulk Density (Lb/Gal):	8.66

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.

Materials to Avoid/Chemical Incompatibility: Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
Straight-Run Middle Distillate (Petroleum)	Oral LD50 Rat 5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat 1700 mg/m3 4 h
Linseed oil	No data available

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Not on list		NPRI (Cdn)	
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

TORONTO

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL NEWS HIGH SPEED CYAN
Product Code: FTCN223090
MSDS Code: MSD-00993610
Revision Number: 4
Revision Date: 2013-07-02 13:41:54

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
Straight-Run Middle Distillate (Petroleum)	0.5 - 1.5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Immediate (Acute) Health Effects by Route of Exposure
Inhalation: Can cause minor respiratory irritation.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: No hazard in normal industrial use.

Long-Term (Chronic) Health Effects
Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Skin Contact:

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA No **NTP** No **IARC 1 & 2A** No **IARC 2B** No **NIOSH** No

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen.
Eyes:	Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	No hazard in normal industrial use. Do not induce vomiting. Seek medical attention if symptoms develop. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide
Flash Point:	93 C (200 F) and greater
Firepoint:	Firepoint not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions:	Mildly irritating material. Avoid unnecessary exposure. Do not get in eyes, on skin or clothing. Wash thoroughly after handling. Ground and bond containers when transferring material As with all chemicals, good industrial hygiene practices should be followed when handling this material. Remove contaminated clothing and wash before reuse.
Storage Conditions:	Store in a cool dry place. Isolate from incompatible materials. Store in a tightly closed container. Keep away from heat, sparks, and flame.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:	Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.
Eye Protection:	Wear safety glasses with side shields when handling this product. Have an eye wash station available.
Skin Protection:	Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
Straight-Run Middle Distillate (Petroleum)		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	41.63
Volatiles, % by vol:	50.58
Volatile Organic Chemicals % by wt:	39.28
Volatile Organic Chemicals % by vol:	48.25
VOC lb/gal	3.21
VOC lb/gal (less water):	3.27
Solids % by weight:	58.37
Solids % by volume	49.42
Specific Gravity:	0.98
Bulk Density (Lb/Gal):	8.16

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
Straight-Run Middle Distillate (Petroleum)	Oral LD50 Rat 5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Inhalation LC50 Rat

1700 mg/m3 4 h

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Hydrotreated light distillate	64742-47-8	NPRI (Cdn)	2.84
Not on list		PROP 65	
P0222 Proprietary Copper Salt (Copper Compound)	P0222	SARA 313	0.32
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

TORONTO

14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call: (270) 737-1500
For Health and Safety Questions call: (734) 781-4600
24 Hour Emergency Spill Contact call: (800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name: RETAIL NEWS HIGH SPEED MAGENTA
Product Code: FTCN243090
MSDS Code: MSD-00993616
Revision Number: 3
Revision Date: 2013-07-02 14:07:02

II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%
calcium resinate	1 - 5

Please see Section VIII for product and component exposure guidelines.Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).**III.**

HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 1 **Reactivity:** 0

This product falls under the following WHMIS class:
This product is not controlled. Ce produit n'est pas contrôlé.

Routes of Entry: Inhalation, Ingestion, Skin contact, Eye contact
Medical Conditions Aggravated: No medical conditions affected by exposure.

Immediate (Acute) Health Effects by Route of Exposure

Inhalation: Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.
Skin Contact: Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact: Can cause minor irritation, tearing and reddening.
Ingestion: Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort. Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects

Reproductive and Developmental: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation: Upon prolonged and/or repeated exposure, can cause minor respiratory

irritation, dizziness, weakness, fatigue, nausea, and headache.

Skin Contact: Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Eyes: Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists.

Ingestion: Minimal risk of harm if swallowed. Do not induce vomiting. Seek medical attention immediately. Provide medical care provider with this MSDS.

V. FIRE FIGHTING MEASURES

Flammability Summary: Combustible at elevated temperatures NFPA IIIB (NFPA description only; not to be used for shipping purposes)

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do not direct a stream of water into the hot burning liquid.

Fire and/or Explosion Hazards: Material may be ignited only if preheated to temperatures above the high flash point, for example in a fire.

Fire Fighting Methods and Protection: Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Use methods for the surrounding fire.

Hazardous Combustion Products: Carbon dioxide, Carbon monoxide

Flash Point: 93 C (200 F) and greater

Firepoint: Firepoint not determined.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Handling Precautions: Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. Do not get in eyes, on skin or clothing. Wash thoroughly after handling.
As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Remove contaminated clothing and wash before reuse.

Storage Conditions: Store in a cool dry place. Isolate from incompatible materials. Store in a tightly closed container. Keep away from heat, sparks, and flame.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures: Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Respiratory Protection: General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.

Eye Protection: Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.

Skin Protection: Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves: Wear impervious material no specific details available.

Exposure Guidelines:

Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
calcium resinate		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid, semi-solid, or solid
Solubility in Water:	Not determined
Volatiles, % by wt:	42.52
Volatiles, % by vol:	50.34
Volatile Organic Chemicals % by wt:	42.38
Volatile Organic Chemicals % by vol:	50.21
VOC lb/gal	3.35
VOC lb/gal (less water):	3.35
Solids % by weight:	57.48
Solids % by volume	49.66
Specific Gravity:	0.95
Bulk Density (Lb/Gal):	7.91

X. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.

Materials to Avoid/Chemical Strong oxidizing agents.

Incompatibility:

Hazardous Decomposition Products: Toxic gases

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

Chemical Name	LD50/LC50
calcium resinate	No data available

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product: Spent or discarded material is not expected to be a hazardous waste.

Disposal Methods: Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Not on list		CERCLA	
Not on list		HAP	
Hydrotreated light distillate	64742-47-8	NPRI (Cdn)	4.00
Not on list		PROP 65	
Not on list		SARA 313	
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. ADDITIONAL INFORMATION

Disclaimer: Flint Group has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

TORONTO

Varn International, Inc., *a Flint Group Company*
14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call:	(800) 336-VARN(8276)
For Health and Safety Questions call:	(800) 336-VARN(8276)
After Hours Emergency Health/Safety Questions:	(800) 391-0698 Prosar (US/Canada)
24 Hour Emergency Spill Contact call:	(800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	WASH V-313 BLUE
Product Code:	650-B090020
MSDS Code:	MSD-00940136
Revision Number:	2
Revision Date:	2011-07-15 11:42:35

II. COMPOSITION/INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%
64742-47-8	Hydrotreated Light Distillate (Petroleum)	60 - 99
64742-95-6	Solvent naphtha (petroleum), light arom.	1 - 5
95-63-6	1,2,4-Trimethylbenzene	1 - 5

Please see Section VIII for product and component exposure guidelines.
Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

III. HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 2 **Reactivity:** 0

This product falls under the following WHMIS class:
B3

Routes of Entry:	Inhalation, Ingestion, Skin contact, Eye contact
Target Organs:	Central Nervous System, Lungs, Eyes, Skin, Blood, Respiratory Tract
Medical Conditions Aggravated:	Lung disease, Eye disease, Skin disease including eczema and sensitization, Respiratory disease including asthma and bronchitis

Immediate (Acute) Health Effects by Route of Exposure

Inhalation:	Can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache. Inhalation of high concentrations may result in central nervous system (CNS) effects such as dizziness, weakness, fatigue, nausea, headache, and lack of coordination.
Skin Contact:	Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact:	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
Ingestion:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis. Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects

Reproductive and Developmental:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation:	Upon prolonged and/or repeated exposure, can cause minor respiratory irritation, dizziness, weakness, fatigue, nausea, and headache.Harmful! Can cause systemic damage upon prolonged and/or repeated exposure.
Skin Contact:	Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	No	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	No		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.
Skin Contact:	Wash with soap and water. Get medical attention if irritation develops or persists.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Induce vomiting as a last measure. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible NFPA II (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire.
Fire and/or Explosion Hazards:	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Flash Point:	38 C (100 F) - 60 C (140F)
Firepoint:	Firepoint not determined.
Upper Flammable/Explosive Limit, % in air:	6.2
Lower Flammable/Explosive Limit, % in air:	1.2

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Product Use:	Press Wash
Handling Precautions:	Mildly irritating material. Avoid unnecessary exposure. Ground and bond containers when transferring material Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area.
Storage Conditions:	Store in a cool dry place. Isolate from incompatible materials. Do not store in direct sunlight. Keep away from heat, sparks, and flame. Store in a tightly closed container.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exhaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.
Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.
Skin Protection:	Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Wear impervious material. Butyl rubber or Nitrile

Exposure Guidelines:

CAS#	Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
64742-47-8	Hydrotreated Light Distillate (Petroleum)		No TLV	No STEL	Not on list
64742-95-6	Solvent naphtha (petroleum), light arom.		No TLV	No STEL	Not on list
95-63-6	1,2,4-Trimethylbenzene		No TLV	No STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Blue
Odor:	Petroleum or solvent
Solubility in Water:	Emulsifies
Vapor Pressure (mmHg @ 20 deg. C):	2.8

Volatile Organic Chemicals % by wt:	97.77
VOC lb/gal	6.36
Specific Gravity:	0.78
Bulk Density (lbs/Gal):	6.5
Bulk Density (kg/L):	0.78

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above flash point in combination with sparks, open flames, or other sources of ignition.
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

CAS#	Chemical Name	LD50/LC50
64742-47-8	Hydrotreated Light Distillate (Petroleum)	No data available
64742-95-6	Solvent naphtha (petroleum), light arom.	Inhalation LC50 Rat >5.2 mg/L 4 h; Inhalation LC50 Rat 3400 ppm 4 h; Oral LD50 Rat 8400 mg/kg; Dermal LD50 Rabbit >2000 mg/kg
95-63-6	1,2,4-Trimethylbenzene	ORAL, RAT: LD50 = 5 GM/KG; INHALATION, RAT: LC50 = 18 GM/M3/4H

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product:	Spent or discarded material may be a hazardous waste.
Disposal Methods:	Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Benzene, dimethyl-	1330-20-7	CERCLA	0.23
Benzene, (1-methylethyl)-	98-82-8	CERCLA	0.16
Petroleum naphtha	64742-95-6	NPRI (Cdn)	3.52
1,2,4-Trimethylbenzene	95-63-6	NPRI (Cdn)	2.49
Benzene, (1-methylethyl)-	98-82-8	PROP 65	0.16
1,2,4-Trimethylbenzene	95-63-6	SARA 313	2.49
Xylene (mixed isomers)	1330-20-7	SARA 313	0.23
Cumene	98-82-8	SARA 313	0.16
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Not on list	

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. TRANSPORTATION INFORMATION

49CFR/TDG - Non-bulk:	GROUND SHIPMENTS NOT REGULATED IN PACKAGINGS OF 119 GAL (450 L) OR LESS.
49CFR/TDG - Bulk:	UN1993, FLAMMABLE LIQUID, N.O.S. (NAPHTHA), 3, PGIII, ERG128
IATA - Limited Quantity:	LIMITED QUANTITY EXCEPTION MAY BE USED IF EACH INNER PACKAGING IS 1.3 GAL (5 L) OR LESS. ADD "LTD QTY" TO DESCRIPTION.
IATA - Non-bulk:	UN1993, FLAMMABLE LIQUID, N.O.S. (NAPHTHA), 3, PGIII, ERG128
IATA - Bulk:	UN1993, FLAMMABLE LIQUID, N.O.S. (NAPHTHA), 3, PGIII, ERG128
IMDG - Non-bulk:	REGULATED. REFER TO BILL OF LADING.

XV. ADDITIONAL INFORMATION

References:

Disclaimer: Varn International, Inc. a Flint Group Company has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

Varn International, Inc., *a Flint Group Company*
14909 N. Beck Road
Plymouth, MI 48180

For Product Questions call:	(800) 336-VARN(8276)
For Health and Safety Questions call:	(800) 336-VARN(8276)
After Hours Emergency Health/Safety Questions:	(800) 391-0698 Prosar (US/Canada)
24 Hour Emergency Spill Contact call:	(800) 424-9300 Chemtrec (US/Canada)

Material Safety Data Sheet

I. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	WASH V-324
Product Code:	650-B090019
MSDS Code:	MSD-00940135
Revision Number:	1
Revision Date:	2011-03-02 21:10:41

II. COMPOSITION/INFORMATION ON INGREDIENTS

CAS#	Chemical Name	%
64742-48-9	Naphtha (petroleum), hydrotreated heavy	60 - 99
64742-94-5	Heavy Aromatic Solvent Naphtha (Petroleum)	5 - 10
34590-94-8	Dipropylene Glycol Monomethyl Ether	3 - 7
91-20-3	Naphthalene	0.1 - 1

Please see Section VIII for product and component exposure guidelines.
Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

III. HAZARDS IDENTIFICATION

HMIS Rating **Health:** 1 **Flammability:** 2 **Reactivity:** 0

This product falls under the following WHMIS class:
B3

Routes of Entry:	Ingestion, Inhalation, Skin contact, Eye contact
Target Organs:	Lungs, Eyes, Central Nervous System, Respiratory Tract
Medical Conditions Aggravated:	Eye disease, Respiratory disease including asthma and bronchitis

Immediate (Acute) Health Effects by Route of Exposure

Inhalation:	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact:	Can cause minor skin irritation, defatting, and dermatitis.
Eye Contact:	Can cause minor irritation, tearing and reddening.
Ingestion:	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis. Harmful if swallowed. May cause systemic poisoning.

Long-Term (Chronic) Health Effects

Reproductive and Developmental:	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

Mutagenicity:	No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
Inhalation:	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
Skin Contact:	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. Upon prolonged or repeated exposure, minimal hazard in normal industrial use. May cause gastrointestinal discomfort.

Ingredients of this product appear on the following OSHA identified carcinogen lists at >= 0.1% by weight (yes/no):

OSHA	No	**NTP**	Yes	**IARC 1 & 2A**	No	**NIOSH**	No
				IARC 2B	Yes		

IV. FIRST-AID MEASURES

Inhalation:	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.
Eyes:	Use an eye wash to remove a chemical from your eye regardless of the level of hazard. Flush the affected eye for at least twenty minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Seek medical advice after flushing.
Skin Contact:	Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists. Wash clothing before reuse.
Ingestion:	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Induce vomiting as a last measure. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis.

V. FIRE FIGHTING MEASURES

Flammability Summary:	Combustible NFPA IIIA (NFPA description only; not to be used for shipping purposes)
Extinguishing Media:	Use alcohol resistant foam, carbon dioxide, dry chemical, or water spray when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the fire. Do not direct a water stream directly into the hot burning liquid.
Fire and/or Explosion Hazards:	Material may be ignited if preheated to temperatures above the flash point in the presence of a source of ignition. Combustible Liquid. Can form explosive mixtures at temperatures at or above the flash point.
Fire Fighting Methods and Protection:	Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Flash Point:	>60 C (140 F) - < 93 C (200 F)
Firepoint:	Firepoint not determined.
Upper Flammable/Explosive Limit, % in air:	5.0
Lower Flammable/Explosive Limit, % in air:	0.8

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions and Equipment:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

VII. HANDLING AND STORAGE

Product Use:	Press Wash
Handling Precautions:	Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Ground and bond containers when transferring material Use with adequate ventilation
Storage Conditions:	Store in a cool dry place. Isolate from incompatible materials.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures:	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Respiratory Protection:	General or local exhaust ventilation is the preferred means of control. If general or local exaust ventilation is not available or sufficient to control or eliminate symptoms as described in Section III, respiratory protection should be used.
Eye Protection:	Wear safety glasses with side shields when handling this product. Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.
Skin Protection:	Wear protective gloves. Inspect gloves at regular intervals and replace as necessary. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.
Gloves:	Wear impervious material. Butyl rubber or Nitrile

Exposure Guidelines:

CAS#	Chemical Name	OSHA Exposure Limits	ACGIH TLV - TWA	ACGIH STEL	IDLH
64742-48-9	Naphtha (petroleum), hydrotreated heavy		No TLV	No STEL	Not on list
64742-94-5	Heavy Aromatic Solvent Naphtha (Petroleum)		No TLV	No STEL	Not on list
34590-94-8	Dipropylene Glycol Monomethyl Ether	100 ppm TWA; 600 mg/m3 TWA prevent or reduce skin absorption	100 PPM TWA; 606 MG/M3 TWA	150 PPM STEL; 909 MG/M3 STEL	600 ppm IDLH
91-20-3	Naphthalene	10 PPM TWA; 50 MG/M3 TWA	10 PPM TWA; 52 MG/M3 TWA	15 PPM STEL; 79 MG/M3 STEL	Not on list

If this product is provided in a dry powder state it should be considered a nuisance dust (PEL 10 mg/m3).

If the processing of this product produces a mist it should be considered to be an oil mist with a PEL of 5 mg/m3.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Blue
Odor:	Petroleum or solvent
Solubility in Water:	Emulsifies

Vapor Pressure (mmHg @ 20 deg. C):	0.5
Volatile Organic Chemicals % by wt:	98.45
VOC lb/gal	6.65
Specific Gravity:	0.81
Bulk Density (lbs/Gal):	6.75
Bulk Density (kg/L):	0.81

X. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above flash point in combination with sparks, open flames, or other sources of ignition.
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents.

XI. TOXICOLOGICAL INFORMATION

Component Toxicology Data (NIOSH):

CAS#	Chemical Name	LD50/LC50
64742-48-9	Naphtha (petroleum), hydrotreated heavy	Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >3160 mg/kg
64742-94-5	Heavy Aromatic Solvent Naphtha (Petroleum)	Inhalation LC50 Rat >590 mg/m3 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg
34590-94-8	Dipropylene Glycol Monomethyl Ether	Oral LD50 Rat 5230 mg/kg; Dermal LD50 Rabbit 9500 mg/kg
91-20-3	Naphthalene	ORAL, RAT: LD50 = 490 MG/KG; INHALATION, RAT: LC50 = >340 MG/M3/1H; ORAL, MOUSE: LD50 = 533 MG/KG; SKIN, RABBIT: LD50 = >20 GM/KG

XII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product:	Spent or discarded material is not expected to be a hazardous waste.
Disposal Methods:	Dispose in accordance with Federal, State, Provincial and Local regulations. Material may be compatible with industrial waste incineration or inclusion in a fuel blending program. This characterization is subject to approval by your waste management contractor. This material should be recycled if possible.

XIII. REGULATORY INFORMATION

TSCA Status	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Chemical Name	CAS #	Regulation	Percentage
Naphthalene	91-20-3	CERCLA	0.78
Hydrotreated heavy naphtha	64742-48-9	NPRI (Cdn)	83.9
Heavy aromatic solvent naphtha	64742-94-5	NPRI (Cdn)	7.09
Naphthalene	91-20-3	PROP 65	0.78
Naphthalene	91-20-3	SARA 313	0.78
1,2,4-Trimethylbenzene	95-63-6	SARA 313	0.13
Not on list		SARA EHS	

The following items require export notification for TSCA

Chemical Name	TSCA 12b list section
Dipropylene glycol monomethyl ether	Section 4, 1 % de minimus concentration

Naphthalene	Section 4, 0.1 % de minimus concentration

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains information required by the Controlled Products Regulations.

XIV. TRANSPORTATION INFORMATION

49CFR/TDG - Non-bulk:	GROUND SHIPMENTS NOT REGULATED IN PACKAGINGS OF 119 GAL (450 L) OR LESS.
49CFR/TDG - Bulk:	NA1993, COMBUSTIBLE LIQUID, N.O.S. (NAPHTHA), PGIII, ERG128
IATA - Non-bulk:	NOT REGULATED
IMDG - Non-bulk:	NOT REGULATED

XV. ADDITIONAL INFORMATION

References:

Disclaimer: Varn International, Inc. a Flint Group Company has prepared this Material Safety Data Sheet (“MSDS”) in compliance with 29 CFR 1910.1200, understands that its customers may use this MSDS to comply with that section, and believes that the data set forth herein are accurate as of the date hereof; however, this MSDS shall not constitute a warranty with respect thereto.

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard (29 CFR 1910.1200) and the American National Standards Institute Standard for MSDSs (ANSI Z400.1)

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured For: **Heidelberg Canada** Graphic Equipment Limited Address: 6265 Kenway Drive Mississauga, Ontario L5T 2L3	Identity (trade name as used on label): **SAPHIRA PW-3207A** **Metering Roller Cleaner**
Date Prepared: 3/12/2013 Revision: 2	Prepared By: JMM
Information Calls: (866) 443-5811	DOT Emergency Response: (800) 424-9300

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview: Clear, colorless liquid with solvent odour. Causes eye, skin and respiratory tract irritation. Can cause severe lung damage and may be fatal if swallowed. May cause CNS depression. Extremely flammable liquid and vapour. May cause flash fire. Vapours are heavier than air and may travel across the ground and reach remote ignition sources causing a flashback fire. During emergencies, wear equipment to protect eyes, skin and respiratory tract. Dike or absorb spills to keep material and run-off from entering sewers, drains or waterways.

Potential Health Effects:

Skin – Prolonged or repeated contact with liquid can cause defatting and drying of the skin, and can lead to irritation and/or dermatitis.

Eyes – Vapours are irritating to the eyes. Splashes may cause severe irritation, with stinging, tearing, redness, and pain.

Inhalation – Inhalation of vapours irritates the respiratory tract. May cause headache, dizziness, anesthetic effects (CNS depression). Alcohol consumed before or after exposure may increase adverse effects.

Ingestion – May cause nausea, vomiting, diarrhea; possible chemical pneumonitis if aspirated into lungs.

Conditions Aggravated by Exposure: Chronic exposure may aggravate existing eye, skin or upper respiratory conditions.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	WT. %	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
ACETONE	67-64-1	10-20	1000	500 STEL=750	d
ISOPROPANOL (Synonyms: Isopropyl Alcohol, IPA)	67-63-0	5-15	400	400 STEL=500	d
ALIPHATIC PETROLEUM DISTILLATE	64742-89-8	70-80	Not Established	300	d

*See SECTION 15 – REGULATORY INFORMATION.

**Chemical Listed as Carcinogen or Potential Carcinogen: a = NTP b = IARC Monograph c = OSHA d = Not Listed e = Animal Data Only

SECTION 4 – FIRST AID MEASURES

Eye Contact: Immediately flush with water for at least 15 minutes; seek medical attention.	**Ingestion:** Do NOT induce vomiting. Do NOT drink water. Seek immediate medical attention.
Skin Contact: Remove contaminated clothing; launder before re-use. Wash skin with soap and water; if irritated, seek medical attention.	**Inhalation:** Immediately remove to fresh air. Seek medical attention.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point and Method Used:	**Auto Ignition Temperature:**	**Explosion Limits:**
10^{o} F (TCC)	Not Established	% LEL – Not Established % UEL – Not Established

Extinguisher Media: Foam, dry chemical; use water spray to cool exposed surfaces.

OSHA Class IB Flammable Liquid. Evacuate area and fight fire from a safe distance if fire is contained in small area; otherwise, call the local fire department.

Unusual Fire & Explosion Hazards: Extremely flammable. Vapours are heavier than air and may accumulate in low or inadequately ventilated areas. Vapours may travel along the ground to be ignited at locations distant from handling site. Flashback or flame to the handling site may occur. Fire media run-off can damage the environment. Dike and collect media used to fight fire.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

For small incidental spills and leaks, wear protective gloves and eye protection. Stop source of leak or spill. Isolate area of spill by diking, and/or add dry absorbent to prevent it from entering sewers, drains or waterways. Clean up and place in an appropriate container for disposal. Wash all contaminated clothing before reuse; discard contaminated leather shoes.

For larger spill requiring emergency response, follow OSHA emergency response regulations and NIOSH recommendations. If possible, stop source of spill or release. Isolate the area of spill or release by diking to prevent it from entering sewers, drains or waterways. Clean up and place in an appropriate container for disposal.

SECTION 7 – HANDLING/STORAGE

Avoid contact with eyes, skin or clothing. Avoid breathing mist or vapour. Wash thoroughly after handling. Do not eat, drink or smoke in work areas. Use only with adequate ventilation. Avoid using in areas with open flames, welding arcs, extreme heat, or sparks. Keep container closed when not in use. Transfer to bonded and grounded containers only. Avoid storage with acids/bases and strong oxidizers. Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapour, liquid, and/or solid), all hazard precautions given in this data sheet must be observed.

SECTION 8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

Ventilation: Good, general ventilation should be sufficient for most operations. Ten or more room air changes per hour containing a minimum of 15% fresh air are recommended.

Personal Protection: Safety glasses and gloves impervious to the hazardous ingredients are recommended. If used under normal operating conditions, and with adequate ventilation, respiratory equipment is not required.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour: Clear, colorless liquid with solvent odour.	**Boiling Point/Range:** 133 – 285^{o} F
Odour Threshold: Not Available	**Vapour Density:** Not Available
Specific Gravity (Water = 1.00): 0.82	**VOC Composite Vapour Pressure:** 8.20 mmHg @ 20^{o} C
Viscosity: Not Established	**Solubility in Water:** Negligible
pH: Not Applicable	**VOC (lbs/gal):** 5.25 (USEPA Method 24)
Freezing Point: Not Available	**Coefficient of Water/Oil Distribution:** Not Available

SECTION 10 – STABILITY AND REACTIVITY

Hazardous Polymerization: Will NOT occur; product is stable.

Hazardous Decomposition Products: Includes, but not limited to smoke, fumes, oxides of nitrogen, oxides of carbon.

Materials and Conditions to Avoid: All potential sources of ignition. Avoid contact with strong oxidizers and strong acids/bases.

SECTION 11 – TOXICOLOGICAL INFORMATION

LD50 (oral, rat): No data available.

Acute Overexposure: May cause eye, skin, and respiratory tract irritation.

Chronic Overexposure: Prolonged or repeated skin contact may cause dermatitis and/or sensitization. Repeated ingestion may cause CNS depression and kidney damage. Chronic exposure to aliphatic petroleum distillates has been found to cause kidney damage in male rats. The mechanism by which this toxicity occurs is specific to the male rat and the kidney effects are not expected to occur in humans. Chronic overexposure to Isopropanol has been suggested as a cause of mild, reversible liver effects in laboratory animals.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Chemical Fate Data: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Hazardous Waste Characterization: D001 (Ignitable Characteristic).

Recommendation: Dispose of materials associated with cleaning up spills and/or leaks according to federal, state and local regulations for ignitable waste. Consult appropriate federal, state and local regulations to determine proper characterization of used product contaminated with other printing process products.

SECTION 14 – TRANSPORT INFORMATION

Ground Shipping (US DOT 49 CFR): Flammable liquid, n.o.s. (Petroleum Distillate, Acetone) 3 UN1993 PG II (ERG#128).

Air (ICAO/IATA) Shipping: Not Available.

International Maritime Organization (IMDG) Shipping: Not Available.

SECTION 15 – REGULATORY INFORMATION

SARA Title III, Section 313 (Toxic Release Inventory) – None.

Clean Air Act 1990 Hazardous Air Contaminants; Clean Air Act HON Rule (Hazardous Air Pollutant-HAP) – None.

SARA Title III, Section 302 (Hazardous Substance List) – None.

Canadian DSL/NDSL Inventory: Components of this product are listed either on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification: Class B Flammable Material; Class D2B Toxic Material.

TSCA Inventory: All of this product's components are listed.

SECTION 16 – OTHER INFORMATION

FOR INDUSTRIAL USE ONLY USE ONLY AS DIRECTED DO NOT TAKE INTERNALLY

HAZARD RATING: Health – 1 Flammability – 3 Reactivity – 0 Personal Protection – Glasses, Gloves

Health: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe	Flammability: 0 = Will Not Burn 1 = Flash Point > 200^{o} F 2 = Flash Point > 100^{o} F and < 200^{o} F 3 = Flash Point < 100^{o} F and Boiling Point > 100^{o} F 4 = Flash Point and Boiling Point <100^{o} F	Reactivity: 0 = None 1 = Slight 2 = Moderate 3 = Serious 4 = Extreme

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. Some information may be based on indirect test data.

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard (29 CFR 1910.1200) and the American National Standards Institute Standard for MSDSs (ANSI Z400.1)

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufactured For: **Baldwin Oxy-Dry Americas** Address: 14600 W. 106th Street Lenexa, KS 66215	Identity (trade name as used on label): **Baldwin 1705** **Impact Prepac Solution** **For Conventional Web and Sheet-Fed Presses**
Date Prepared: 11/11/09 Revision: 2 Prepared By: LMA	Date Reviewed: 11/28/2012 Reviewed By: JMM
Information Calls: (866) 443-5811	DOT Emergency Response: (800) 424-9300

SECTION 2 – HAZARDS IDENTIFICATION

Emergency Overview: Colourless liquid with mild solvent odor. May cause eye irritation; may cause minor skin irritation. If swallowed, aspiration into the lungs may cause severe damage or even death. During emergencies, wear equipment to protect eyes and skin. Dike or absorb spills to keep material and run-off from entering sewers, drains or waterways.

Potential Health Effects:
Skin – Splashes to the eyes may cause irritation.
Eyes – Prolonged or repeated contact may cause minor irritation.
Inhalation – None known.
Ingestion – May cause nausea, vomiting, diarrhea.

Conditions Aggravated by exposure: None known.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	WT. %	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
HYDROTREATED MIDDLE DISTILLATE (Mfr. Recommends 100 mg/m3 TWA)	64742-46-7	35-45	Not Established	Not Established	d

*See SECTION 15 – REGULATORY INFORMATION.

**Chemical Listed as Carcinogen or Potential Carcinogen: a = NTP b = IARC Monograph c = OSHA d = Not Listed e = Animal Data Only

SECTION 4 – FIRST AID MEASURES

Eye Contact: Immediately flush with water for at least 15 minutes; seek medical attention if irritation persists.	**Ingestion:** Do NOT induce vomiting; this material can enter the lungs and cause severe lung damage. Seek immediate medical attention.
Skin Contact: Remove contaminated clothing; launder before re-use. Wash skin with soap and water; if irritated, seek medical attention.	**Inhalation:** Immediately remove to fresh air. Seek medical attention if breathing difficulty occurs.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point and Method Used:	**Auto Ignition Temperature:**	**Explosion Limits:**
>200° F (CC)	Not Established	% LEL – Not Established % UEL – Not Established

Extinguisher Media: Foam, dry chemical; use water spray to cool exposed surfaces.
OSHA Class IIIB Combustible Liquid. Evacuate area and fight fire from a safe distance if fire is contained in small area; otherwise, call the local fire department.

Unusual Fire & Explosion Hazards: Under fire conditions, hazardous fumes may be present. Fire media run-off can damage the environment. Dike and collect media used to fight fire.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

For small incidental spills and leaks, wear protective gloves and eye protection. Stop source of leak or spill. Isolate area of spill by diking, and/or add dry absorbent to prevent it from entering sewers, drains or waterways. Clean up and place in an appropriate container for disposal. Wash all contaminated clothing before reuse. For larger spill requiring emergency response, follow OSHA emergency response regulations and NIOSH recommendations. If possible, stop source of spill or release. Isolate the area of spill or release by diking to prevent it from entering sewers, drains or waterways. Clean up and place in an appropriate container for disposal.

SECTION 7 – HANDLING/STORAGE

Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. Do not eat, drink or smoke in work areas. Keep container closed when not in use. Use only with adequate ventilation.
Store in a cool, dry, well-ventilated area away from all sources of ignition, including open flames, welding arcs, heat, and other sparks. Avoid storage with acids/bases and strong oxidizers.

SECTION 8 – EXPOSURE CONTROL AND PERSONAL PROTECTION

Ventilation: Good, general ventilation should be sufficient for most operations. Ten or more room air changes per hour containing a minimum of 15% fresh air are recommended.

Personal Protection: Safety glasses and gloves impervious to the hazardous ingredients are recommended. If used under normal operating conditions, and with adequate ventilation, respiratory equipment is not required.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Colourless liquid with mild solvent odor.	**Boiling Point/Range:** 660° F
Odor Threshold: Not Available	**Vapor Density:** Not Available
Specific Gravity (Water = 1.00): 0.86 – 0.88	**VOC Composite Vapour Pressure:** <0.1 mmHg @ 20° C
Viscosity: Not Established	**Solubility in Water:** Emulsifies
pH: Not Applicable	**VOC (lbs/gal):** 0.4 (USEPA Method 24)
Freezing Point: Not Available	**Coefficient of Water/Oil Distribution:** Not Available

SECTION 10 – STABILITY AND REACTIVITY

Hazardous Polymerization: Will NOT occur; product is stable.

Hazardous Decomposition Products: Includes, but not limited to smoke, fumes, carbon monoxide, carbon dioxide.

Materials and Conditions to Avoid: All potential sources of ignition. Avoid contact with strong oxidizers and strong acids/bases.

SECTION 11 – TOXICOLOGICAL INFORMATION

LD50 (oral, rat): No data available.

Acute Overexposure: May cause eye and minor skin irritation.

Chronic Overexposure: Effects of overexposure may include irritation of the respiratory tract, transient excitation followed by signs of nervous system depression.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity Data: No data available.

Chemical Fate Data: No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

Hazardous Waste Characterization: None

Recommendation: Dispose of materials associated with cleaning up spills and/or leaks according to federal, state and local regulations for ignitable waste. Consult appropriate federal, state and local regulations to determine proper characterization of used product contaminated with other printing process products.

SECTION 14 – TRANSPORT INFORMATION

Ground Shipping (US DOT 49 CFR): Not Regulated.

Air (ICAO/IATA) Shipping: Not Regulated.

International Maritime Organization (IMDG) Shipping: Not Regulated.

SECTION 15 – REGULATORY INFORMATION

SARA Title III, Section 313 (Toxic Release Inventory) – None

Clean Air Act 1990 Hazardous Air Contaminants; Clean Air Act HON Rule (Hazardous Air Pollutant-HAP) – None

SARA Title III, Section 302 (Hazardous Substance List) – None

Canadian DSL/NDSL Inventory: All components of this product are listed on the Domestic Substance List; no components are listed on the Non-Domestic Substance List (NDSL).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

TSCA Inventory: All of this product's components are listed.

SECTION 16 – OTHER INFORMATION

FOR INDUSTRIAL USE ONLY USE ONLY AS DIRECTED DO NOT TAKE INTERNALLY

HAZARD RATING: Health – 1 Flammability – 1 Reactivity – 0 Personal Protection – Glasses, Gloves

Health:	Flammability:	Reactivity:
0 = Minimal	0 = Will Not Burn	0 = None
1 = Slight	1 = Flash Point > 200° F	1 = Slight
2 = Moderate	2 = Flash Point > 100° F and < 200° F	2 = Moderate
3 = Serious	3 = Flash Point < 100° F and Boiling Point > 100° F	3 = Serious
4 = Severe	4 = Flash Point and Boiling Point <100° F	4 = Extreme

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. Some information may be based on indirect test data.

FUJIFILM Canada Inc.
Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product Name: **Emerald Premium KDHP Acid Fountain Solution**

Product Code: 203575 20357275 20357275 **Manufacturer Code:** ANCHOR 20357

Distributor

FUJIFILM Canada Inc.
600 Suffolk Court
Misssissauga, Ontario L5R 4G4

Manufacturer

FUJIFILM Hunt Chemicals U.S.A., Inc.
40 Boroline Road
Allendale, NJ 07401-032

Emergency # : CANUTEC (613) 996-6666

HEALTH Emergency #: 800-424-9300

Prepared By: FUJIFILM Canada Inc.

Telephone: (905) 890-6611

Preparation Date: mm/dd/yy 6/30/09

Product Use: Graphic arts product

Section 2. Hazards Identification

Emergency Overview

In the event of an emergency, refer to the information contained within this document. Avoid contact with spilled materials. Wear recommended safety equipment when handling any chemical product. Dike or absorb spills to keep material and run-off from entering sewer or waterways. Consult all material safety data sheets.

Effects Of Acute Exposure:

Skin, eye, respiratory tract and mucous membrane irritant. Ingestion of product may cause nausea and vomiting. Prolonged or repeated inhalation may cause central nervous system depression, anemia and damage to the kidneys, liver and blood system.

Ingredient Information:

Chronic overexposure to 2-butoxyethanol in high concentrations has caused anemia, liver and blood abnormalities, and kidney and lung damage in laboratory animals. May cause maternal toxicity. The American Conference of Governmental Industrial Hygienists (ACGIH) has designated 2-butoxyethanol as an animal carcinogen (A3). Ethylene glycol has caused fetal malformations and fetotoxicity at doses producing no maternal toxicity. Allergic reaction to gum arabic may cause respiratory distress and sensitivity. Borax may impair fertility and cause harm to the unborn child.

Effects of Chronic Exposure:

Prolonged or repeated skin contact may cause dermatitis. May cause central nervous system effects.

WHMIS Class: D1-B, D2-A

HMIS rating:	Health	2	Flammability	1	Reactivity	0	Protection	C	
NFPA rating:	Health	2	Flammability	1	Reactivity	0	Specific Hazards	None	

Hazard Rating: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe C = Gloves, Goggles and Apron

Routes Of Entry: Skin contact, eye contact, inhalation, ingestion

Conditions Aggravated by Exposure: Not available

Section 3. Hazardous Ingredients

INGREDIENT	CAS NUMBER	WEIGHT %
Ammonium nitrate	6484-52-2	1-5
Borax, 5-mole	1303-96-4	1-5
Ethylene glycol	107-21-1	0.1-1
2-butoxyethanol	111-76-2	5-10
Gum arabic	9000-01-5	3-7
N-Octylpyrrolidinone	2687-94-7	1-5
Sodium gluconate	527-07-1	1-5
Sodium malate	3105-51-9	1-5
Sucrose	57-50-1	5-10

Section 4. First Aid Measures

Eyes Flush with cool water for 15 minutes. Obtain medical attention.

Skin Wash with soap and water for 15 minutes. Obtain medical attention.

Ingestion Never give anything by mouth to a person rapidly losing consciousness, unconscious or convulsing and should vomiting occur naturally, lean victim forward to reduce the risk of aspiration. Obtain prompt medical attention.

Inhalation Remove to fresh air. Obtain medical attention.

Section 5. Fire Fighting Measures

Flammability:	No	**If Yes, Under Which Conditions?**	Not applicable
Flashpoint and Method (° C):	>93	**Autoignition Temperature:**	Not applicable
Upper Flammable Limit (% By Volume):	Not applicable	**Lower Flammable Limit (% By Volume):**	Not applicable
Explosion Data			
Sensitivity To Impact:	Not applicable	**Sensitivity To Static Discharge:**	Not applicable

Means of Extinction:

Use water spray, foam, CO_2 or dry chemical fire fighting apparatus.

Unsuitable Extinguishing Media:

Not available

Fire Fighting Instructions

Firefighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to the fire. Dike and collect media used to fight fire.

Hazardous Combustion Products:

See decomposition products

Section 6. Accidental Release Measures

Leak and spill procedure: Ventilate area. Wear appropriate personal protective equipment. Stop source of material release. Keep unwanted personnel away from spill zone. Prevent spills from spreading using an inert material as a dam. Do not flush area with water. Absorb spilled product with inert material. If required contact local or provincial agencies. Wash contaminated clothing before reuse and discard contaminated leather shoes. Product soaked absorbent should be placed in a sealed container for disposal in accordance to local, provincial or federal regulations.

Section 7. Handling and Storage

Handling:

Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapours. Do not swallow. Handle in areas with adequate ventilation. Wear appropriate personal protective equipment during handling. Wash thoroughly after handling. Keep containers closed when not in use.

Storage:

Store in a cool, dry, well ventilated place. Keep containers closed when not in use.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: Local mechanical exhaust ventilation recommended.

Protective Equipment

Eyes: Chemical resistant safety goggles

Respirator: If TLV is exceeded use a respirator with appropriate cartridges

Skin Protection: Neoprene gloves and apron

Other: Eyewash station

Exposure Limits - check with provincial authority for applicability

	ACGIH TWA	ACGIH STEL	ACGIH CEL
Ammonium nitrate	not established	not established	not established
Borax, 5-mole	2mg/m^3 (inh.PM)	not established	6mg/m^3 (inh.PM)
Ethylene glycol	not established	not established	100 mg/m^3
2-butoxyethanol	20 ppm	not established	not established
Gum arabic	not established	not established	not established
N-Octylpyrrolidinone	not established	not established	not established
Sodium gluconate	not established	not established	not established
Sodium malate	not established	not established	not established
Sucrose	10 mg/m^3	not established	not established

Section 9. Physical and Chemical Properties

Physical State:	Liquid, green, clear	**pH :**	4.85
Odour:	Mild	**Specific Gravity:**	1.105
Odour Threshold:	Not available	**Solubility in Water**	Complete
Vapour Density:	Not available	**Volatiles**	Not available
Vapour Pressure (mm Hg):	~17 @20C	**Coefficient of Water Oil Distribution**	Not available
Evaporation Rate:	Not available	**VOC lb/gal**	0.8
Boiling Point (°C) :	> 100	**Freezing Point (°C):**	Not available
Melting Point (°C):	Not available		

Section 10. Stability and Reactivity

Hazardous Polymerization: Hazardous polymerization will not occur if product is used and stored as directed.

Materials and Conditions to Avoid: Strong oxidizers, strong acids, strong bases, chlorine bleaches. Keep away from excess heat.

Reactivity and Conditions:

Addition of bleaches (sodium hypochlorite) can result in the release of hazardous gases causing severe respiratory irritation.

Decomposition Products: CO_2, CO, NOx, SOx, ammonia

Conditions of Chemical Instability: Product is stable if used and stored as directed

Section 11. Toxicological Information

LD50 (oral rat): Not available **Synergistic Materials:** None known

Irritancy : Skin, eye, respiratory tract and mucous membrane irritant

Sensitization : May cause sensitivity to respiratory tract

Teratogenicity: Ethylene glycol caused embryotoxic and teratogenic effects in laboratory animals

Carcinogenicity: ACGIH has designated 2-butoxyethanol as an animal carcinogen (A3).

Reproductive Toxicity: Not known to be a reproductive toxin

Mutagenicity: Not known to be a mutagen

Ingredients	LD50 (Oral Rat)	LC50 (Species)	LD50 (species)
Ammonium nitrate	2217 mg/kg	not available	
Borax, 5-mole	2660 mg/kg	not available	
Ethylene glycol	2.8 g/kg (cut)	>200mg/m^3/4H (rat)	
2-butoxyethanol	470 mg/kg	450ppm/4hr(rat)	
Gum arabic	>16g/kg	not available	
N-Octylpyrrolidinone	2050 mg/kg	not available	
Sodium gluconate	7.63 g/kg (LDLo)	not available	
Sodium malate	not available	not available	
Sucrose	29.7 g/kg	not available	

Section 12. Ecological Information

Ecotoxicity Data: Not available **Chemical fate Data:** Not available

Section 13. Disposal Considerations

Consult appropriate municipal, provincial and federal regulatory agencies to determine proper disposal procedures.

Section 14. Transportation Information

Proper Shipping Name: Not regulated

Shipping Class: Not applicable

Product Identification No: Not applicable

Packing Group: Not applicable **Other Instructions:** Check transportation labels

Section 15. Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulation (CPR) and the MSDS contains all of the information required by the CPR.

Section 16. Other Information

This MSDS has been prepared to meet WHMIS requirements and is believed to be correct. The information should be used to make an independent determination of the methods to safeguard workers and the environment.

FUJIFILM Canada Inc.
Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product Name: **Emerald MXEH-M One-Step Fountain Solution**

Product Code: 201855 **Manufacturer Code:** ANCHOR 2018

Distributor

FUJIFILM Canada Inc.
600 Suffolk Court
Misssissauga, Ontario L5R 4G4

Manufacturer

FUJIFILM Hunt Chemicals U.S.A., Inc.
40 Boroline Road
Allendale, NJ 07401-032

Emergency # : CANUTEC (613) 996-6666

HEALTH Emergency #: 800-424-9300

Prepared By: FUJIFILM Canada Inc.

Telephone: (905) 890-6611

Preparation Date: 5/5/10 mm/dd/yy

Product Use: Graphic arts product

Section 2. Hazards Identification

Emergency Overview

In the event of an emergency, refer to the information contained within this document. Avoid contact with spilled materials. Wear recommended safety equipment when handling any chemical product. Dike or absorb spills to keep material and run-off from entering sewer or waterways. Consult all material safety data sheets.

Effects Of Acute Exposure:

Irritant to skin, eyes, mucous membranes and respiratory tract. Ingestion of product may cause nausea and vomiting.

Ingredient Information:

Allergic reaction to gum arabic dust may cause respiratory distress and sensitivity. Ethylene glycol has caused fetal malformations and fetotoxicity at doses producing no maternal toxicity.

Effects of Chronic Exposure:

Prolonged or repeated skin contact may cause allergic reaction and dermatitis.

WHMIS Class: D2-A

HMIS rating:	Health	2	Flammability	1	Reactivity	0	Protection C
NFPA rating:	Health	2	Flammability	1	Reactivity	0	Specific Hazards None

Hazard Rating: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe C = Gloves, Goggles and Apron

Routes Of Entry: Skin contact, eye contact, inhalation, ingestion

Conditions Aggravated by Exposure: Not available

Section 3. Hazardous Ingredients

INGREDIENT	CAS NUMBER	WEIGHT %
Acetic acid	64-19-7	1-5
Ammonium nitrate	6484-52-2	1-5
Diethylene glycol monobutyl ether	112-34-5	5-10
Gum arabic	9000-01-5	1-5
N-Octylpyrrolidinone	2687-94-7	1-5
Propylene glycol	57-55-6	7-13
Ethylene glycol	107-21-1	0-1

Section 4. First Aid Measures

Eyes Flush with cool water for 15 minutes. Obtain medical attention.

Skin Remove contaminated clothing, shoes and leather goods under running water. Wash with soap and water for 15 minutes. Obtain medical attention.

Ingestion Induce vomiting upon medical advice. Never give anything by mouth to a person rapidly losing consciousness, unconscious or convulsing and should vomiting occur naturally, lean victim forward to reduce the risk of aspiration. Obtain prompt medical attention.

Inhalation Remove to fresh air. Obtain medical attention.

Section 5. Fire Fighting Measures

Flammability:	No	**If Yes, Under Which Conditions?**	Not applicable
Flashpoint and Method (° C):	>94	**Autoignition Temperature:**	Not applicable
Upper Flammable Limit (% By Volume):	Not applicable	**Lower Flammable Limit (% By Volume):**	Not applicable
Explosion Data			
Sensitivity To Impact:	Not applicable	**Sensitivity To Static Discharge:**	Not applicable

Means of Extinction:

Use water spray, foam, CO_2 or dry chemical fire fighting apparatus.

Unsuitable Extinguishing Media:

Not available

Fire Fighting Instructions

Firefighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to the fire. Dike and collect media used to fight fire.

Hazardous Combustion Products:

See decomposition products

Section 6. Accidental Release Measures

Leak and spill procedure: Ventilate area. Wear appropriate personal protective equipment. Stop source of material release. Keep unwanted personnel away from spill zone. Prevent spills from spreading using an inert material as a dam. Do not flush area with water. Absorb spilled product with inert material. If required contact local or provincial agencies. Wash contaminated clothing before reuse and discard contaminated leather shoes. Product soaked absorbent should be placed in a sealed container for disposal in accordance to local, provincial or federal regulations.

Section 7. Handling and Storage

Handling:

Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapours. Do not swallow. Handle in areas with adequate ventilation. Wear appropriate personal protective equipment during handling. Wash thoroughly after handling. Keep containers closed when not in use.

Storage:

Store in a cool, dry, well ventilated place. Keep container closed when not in use.

Section 8. Exposure Controls and Personal Protection

Engineering Controls: Local mechanical exhaust ventilation recommended.

Protective Equipment

Eyes: Chemical resistant safety goggles

Respirator: If TLV is exceeded use a respirator with appropriate cartridges

Skin Protection: Neoprene gloves and apron

Other: Eyewash station

Exposure Limits - check with provincial authority for applicability

	ACGIH TWA	ACGIH STEL	ACGIH CEL
Acetic acid	10 ppm	15 ppm	not established
Ammonium nitrate	not established	not established	not established
Diethylene glycol monobutyl ether	not established	not established	not established
Gum arabic	not established	not established	not established
N-Octylpyrrolidinone	not established	not established	not established
Propylene glycol	not established	not established	not established
Ethylene glycol	not established	not established	100 mg/m^3

Section 9. Physical and Chemical Properties

Physical State:	Liquid, green, clear	**pH :**	4.0
Odour:	Mild	**Specific Gravity:**	1.04
Odour Threshold:	Not available	**Solubility in Water**	100%
Vapour Density:	Not available	**Volatiles**	Not available
Vapour Pressure (mm Hg):	~17 @20C	**Coefficient of Water Oil Distribution**	Not available
Evaporation Rate:	Not available	**VOC lb/gal**	1.96
Boiling Point (°C) :	>100	**Freezing Point (°C):**	Not available
Melting Point (°C):	Not available		

Section 10. Stability and Reactivity

Hazardous Polymerization: Hazardous polymerization will not occur if product is used and stored as directed.

Materials and Conditions to Avoid: Strong oxidizers, strong acids, strong bases, chlorine bleaches. Keep away from excess heat.

Reactivity and Conditions:

Addition of bleaches (sodium hypochlorite) can result in the release of hazardous gases causing severe respiratory irritation.

Decomposition Products: CO_2, CO, SOx, NOx, ammonia

Conditions of Chemical Instability: Product is stable if used and stored as directed

Section 11. Toxicological Information

LD50 (oral rat): >5000 mg/kg **Synergistic Materials:** None known

Irritancy : Skin, eye, mucous membrane and respiratory tract irritant

Sensitization : May cause sensitivity to respiratory tract

Teratogenicity: Ethylene glycol caused embryotoxic and teratogenic effects in laboratory animals

Carcinogenicity: Not known to be carcinogenic

Reproductive Toxicity: Not known to be a reproductive toxin

Mutagenicity: Not known to be a mutagen

Ingredients	LD50 (Oral Rat)	LC50 (Species)	LD50 (species)
Acetic acid	3310 mg/kg	16000 ppm/4H	
Ammonium nitrate	2217 mg/kg	not available	
Diethylene glycol monobutyl ether	5.6 g/kg	not available	
Gum arabic	>16g/kg	not available	
N-Octylpyrrolidinone	2050 mg/kg	not available	
Propylene glycol	20 g/kg	not available	
Ethylene glycol	2.8 g/kg (cut)	>200mg/m^3/4H (rat)	

Section 12. Ecological Information

Ecotoxicity Data: Not available **Chemical fate Data:** Not available

Section 13. Disposal Considerations

Consult appropriate municipal, provincial and federal regulatory agencies to determine proper disposal procedures.

Section 14. Transportation Information

Proper Shipping Name: Not regulated

Shipping Class: Not applicable

Product Identification No: Not applicable

Packing Group: Not applicable **Other Instructions:** Check Transportation Labels

Section 15. Regulatory Information

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulation (CPR) and the MSDS contains all of the information required by the CPR.

Section 16. Other Information

This MSDS has been prepared to meet WHMIS requirements and is believed to be correct. The information should be used to make an independent determination of the methods to safeguard workers and the environment.

No.: 1003

*** FICHE SIGNALETIQUE ***

PREPAREE PAR: A.KASIMIR DATE: 01/01/11

INDUSTRIES GRAPHOBEC LTEE
111.Indust,Delson,QUE,J0L-1G0
CANADA (450) 632-2610

*** TELEPHONE D'URGENCE ***

(450)632-2610/632-4730;CANUTEC: (613) 996-6666

SECTION -I- IDENTIFICATION DU PRODUIT

Nom du produit: PRESTIGE 884 REJUVENATOR
Nom general...: REJUVENATEUR DE BLANCHET
Utilisation...: USAGE INDUSTRIEL SEULEMENT
Classif.SIMDUT: CLASS.B-2 CLASS.D-2B
Classif.T.M.D.: LIQUIDE INFLAMMABLE

SECTION -II- INGREDIENTS HASARDEUX

%--	COMPOSANTS	T.L.V	No.CAS
10 - 30	NAPHTE DE PETROLE.....	300 PPM	8032-32-4
10 - 30	2-ETHOXYETHANOL.....	5 PPM	110-80-5
10 - 30	ACETATE D'ETHYL	400 PPM	141-78-6
30 - 60	NAPHTE.....	400 PPM	64742-89-8
1 - 10	CETONE.....	750 PPM	67-64-1

SECTION -III- DONNEES PHYSIQUES

Etat Physique.....: Liquide clair
Seuil de l'odeur.....: Odeur de solvant
Point d'ebulition....oC.: 93.oC Ingredient (4)
Tension de vapeur(mm/Hg): 105 a 38.oC ingrd.(4)
Densite de vapeur(Air=1): Plus lourd que l'air
Taux d'evap.(B/Acet=1)..: Plus lent que l'ether
% Volatile par volume...: 100%
Point de fusion.....oC.: Non etabli
Point de congelation.oC.: Non etabli
Solubilite dans l'eau...: Non etabli
Densite(Eau=1).....: 0.78 a 20.oC
PH.....: Non etabli

SECTION -IV- RISQUES D'INCENDIE ET D'EXPLOSION

Point d'Eclair (Vase clos): - 15.oC
(Vase ouvert):

*****MOYENS D'EXTINCTION*****

(X)Mousse (X)Dioxide de Carbone (X)Poudre Chim.
(X)Eau Pulverisee ( ) Autre:

*****PROCEDURES POUR COMBATTRE LE FEU*****

(X)Porter une tenue de protection et appareil respiratoire autonome avec masque integral
(X)Pulveriser de l'eau sous forme de brouillard pour refroidir tous contenants de metal et structures exposes.

DANGERS EXCEPTIONNELS DE FEU & D'EXPLOSION

(X)Les vapeurs sont plus lourdes que l'air, et peuvent se propager en cas de fuite jusqu'a

*** MATERIAL SAFETY DATA SHEET ***

PREPARED BY: A.KASIMIR DATE: 01/01/11

GRAPHOBEC INDUSTRIES LTD
111.Indust,Delson,QUE,J0L-1G0
CANADA (450) 632-2610

*** EMERGENCY TELEPHONE ***

(450)632-2610/632-4730;CANUTEC: (613) 996-6666

SECTION -I- PRODUCT IDENTIFICATION

Product name: PRESTIGE 884 REJUVENATOR
General name: RUBBER REJUVENATOR
Material Use: INDUSTRIAL USE ONLY
WHMIS.Class.: CLASS.B-2 CLASS.D-2B
T.D.G.Class.: FLAMMABLE LIQUID

SECTION -II- HAZARDOUS INGREDIENTS

%--	COMPONENTS	T.L.V	CAS.No
10 - 30	PETROLEUM NAPHTA.....	300 PPM	8032-32-4
10 - 30	2-ETHOXYETHANOL.....	5 PPM	110-80-5
10 - 30	ETHYL ACETATE.....	400 PPM	141-78-6
30 - 60	NAPHTA.....	400 PPM	64742-89-8
1 - 10	KETONE.....	750 PPM	67-64-1

SECTION -III- PHYSICAL DATA

Physical state.....: Clear liquid
Odour treshold.....: Solvent odor
Boiling point.....oC.: 93.oC Ingredient (4)
Vapour pressure(mm/Hg): 105 @ 38.oC ingrd.(4)
Vapour density(Air=1).: Heavier than air
Evap/rate(B/Acet=1)...: Slower than ether
% Volatile by volume..: 100%
Melting point.....oC.: Not established
Freezing point.....oC.: Not established
Solubility in water...: Not established
Sp/Gravity(water=1)...: 0.78 @ 20.oC
PH.....: Not established

SECTION -IV- FIRE AND EXPLOSION HAZARD DATA

Flash Point (Closed cup): - 15.oC
(Open cup):

*****EXTINGUISHING MEDIA*****

(X)Foam (X)Carbone Dioxide (X)Dry Chemical
(X)Water Fog ( ) Other:

*****FIREFIGHTING MEDIA*****

(X)Wear protective clothing and self-contained breathing apparatus with a full facepiece
(X)Spray water fog, to cool all exposed metal containers and structures.

UNUSUAL FIRE AND EXPLOSION HAZARDS

(X)Vapors are heavier than air, and in case of a leak, they may travel to distant source

(SUITE)

une source d'inflammation sensiblement loin, (feu, flammes, etincelles, decharges statiques, moteurs electriques, radiateurs, etc.)
(X)Attacher les contenants a la Masse(Ground), avant de transferer le (Contenu liquide)
(X)Tenir dans un endroit adequatement aerer
(X)Bien fermer le contenant apres usage

****PRODUITS DE DECOMPOSITION HASARDEUX****

(X)Peut former du materiel toxique:
(X)Dioxide de Carbone (X)Monoxide de Carbone
(X)D'autres Hydrocarbones, etc.

SECTION -V- REACTIVITE

STABILITE: (X)-Stable ( )-Instable

*****CONDITIONS A EVITER*****

(X)-Toutes sources d'inflammation:
(Feu-Flammes nues-Etincelles, Etc.)

****INCOMPATIBILITE****

(X)-Agents Comburants Forts (X)-Alcalis Forts
(X)-Acides mineraux concentres

*****POLYMERISATION HASARDEUSE*****

( )-Peut se produire (X)-Ne se produira pas

*****CONDITION A EVITER*****

(X)-Toutes sources d'inflammation et chaleur

SECTION -VI- RISQUE POUR LA SANTE

Limites d'exposition(T.L.V): Voir Section-II

**** PRECAUTIONS ET CONSEIL SECURITAIRE ****

Porter de l'equipement protectif adequoit, lorsqu'on manipule n'importe quel Solvant Petrolier, Alcool, Solution, Prod. Chimique etc. Eviter le contact avec les yeux et la peau, l'inhalation excessive des vapeurs ainsi que l'ingestion du produit. (Nocif si avale).

*** EFFETS EN CAS DE SUREXPOSITION ***

YEUX: Peut causer irritation, rougeur, larmes.
PEAU: Un contact prolonge peut causer des irritations, assechement de la peau ou entrainer une dermatite.
INGESTION: Nocif, si avale, peut provoquer de l'irritation gastro-intestinale, nausees, vomissements et diarrhee.
INHALATION: L'inhalation excessive de vapeur peut provoquer l'irritation des yeux, du nez, la gorge et les voies respiratoires. Peut produire une depression du Systeme Nerveux Central (SNC), nausees, vertige, faiblesse et maux de tete.

******* PREMIERS SOINS *******

YEUX: Laver immediatement a l'eau courante pendant au moins 15 minutes, consulter le Medecin immediatement.
PEAU: Laver a fond la region exposee a l'eau et savon, retirer tous les vetements contamines, et en cas d'irritations, Consulter le Medecin Immediatement.

(CONTINUATION)

of ignition,
(fire, flames, sparks, static discharges, electric motor, radiators, etc.)
(X)Containers should be (Grounded), before transferring (Liquid content)
(X)Keep in an adequately ventilated area
(X)Keep containers closed when not in use

****HAZARDOUS DECOMPOSITION PRODUCT****

(X)May form toxic material:
(X)Carbone Dioxide (X)Carbone Monoxide
(X)Various Hydrocarbones, etc.

SECTION -V- REACTIVITY DATA

STABILITY: (X)-Stable ( )-Unstable

*****CONDITIONS TO AVOID*****

(X)-All Ignition sources:
(Fire-Open flames-Sparks, Etc.)

****INCOMPATIBILITY****

(X)-Strong Oxidizing Agents (X)-Strong Alkalie
(X)-Strong Mineral Acids

*****HAZARDOUS POLYMERIZATION*****

( )-May occur (X)-Will not occur

*****CONDITIONS TO AVOID*****

(X)-All Ignition and heat sources.

SECTION -VI- HEALTH & HAZARD DATA

Threshold limit value(T.L.V): See Section-II

**** PRECAUTIONS AND SECURITY ADVICE ****

Wear adequate protective equipment when handling any type of Petroleum Solvent, Alcohol, Solution, Chemical Products etc. Avoid contact with eyes and skin, excessive inhalation of vapors and also the ingestion of the product. (Harmful if swallowed).

*** EFFECTS IN CASE OF OVEREXPOSURE ***

EYES: Can cause irritation, redness, tearing.
SKIN: Prolonged contact can cause irritation drying of the skin and may cause also dermatitis.
INGESTION: Harmful, if swallowed, can cause gastrointestinal irritation, nausea, vomiting and diarrhea.
INHALATION: Excessive inhalation of vapors can cause Eye, Nose, Throat and respiratory irritations.
May cause a depression to the Central Nervous System (CNS), nausea, dizziness, weakness and headache.

******* FIRST AID *******

EYES: Immediately flush with running water for at least 15 minutes, get medical attention immediately.
SKIN: Thoroughly wash exposed area with soap and water, remove all contaminated clothing, and in case of irritations, Get Medical Attention Immediately.

(SUITE)	(CONTINUATION)
INGESTION: si la victime est consciente, lui faire boire 1 a 2 verres d'eau afin de diluer le produit avale. Ne pas provoquer le vomissement. En cas de vomissement spontane, pencher la victime vers l'avant la tete vers le bas pour eviter l'aspiration des vomissures. Consulter le Medecin Immediatement.	INGESTION: If the victim is conscious, give 1 to 2 glasses of water to drink in order to dilute the swallowed product. Do not induce vomiting. In case of spontaneous vomiting, have the victim lean foreward with head down to avoid breathing in of vomitus. Get Medical Attention Immediately.
INHALATION: Faire respirer de l'air frais a l'individu incommode, si la respiration se fait difficile, administrer de l'oxigene. Consulter le Medecin Immediatement.	INHALATION: If affected, remove individual to fesh air, if breathing is difficult, administer oxigen. Get Medical Attention Immediately.
SECTION -VII- PROCEDURES:FUITES OU DEVERSEMENTS	**SECTION -VII- SPILL OR LEAK PROCEDURES**
Se conformer aux reglements Gouvernementaux applicables aux rapports sur le Deversement, la Manutention et l'elimination des Dechets.	To comply with all applicable Governmental regulations on Spill reporting and Handling, and Waste elimination.
*** EN CAS DE FUITE OU DEVERSEMENT MINEUR ***	*** IN CASE OF MINOR LEAK OR SPILL ***
DEVERSEMENT MINEUR: Utiliser du chiffon tout usage, papier absorbant ou autres substances absorbantes pour essuyer le deversement. Disposer seulement dans des contenants a dechets approuves par le Dept.du Transport.	MINOR SPILL: Use an all purpose cloths, absorbent paper or other absorbent substance to wipe the spill. Dispose only in Dept.of Transport approuved waste containers.
*** EN CAS DE FUITE OU DEVERSEMENT MAJEUR ***	*** IN CASE OF MAJOR LEAK OR SPILL ***
DEVERSEMENT MAJEUR: Eliminer toutes sources d'inflammation (Feu, Flammes, etincelles etc.) Porter tenue et equipement protectif complet Arreter ou reduire le deversement seulement si c'est securitaire et endiguer avec de la terre ou du sable pour empecher de s'etendre Pomper le produit deverse dans d'autres contenants de recuperation et pour d'autres residus, utiliser des substances absorbantes	MAJOR SPILL: Eliminate all ignition sources (Fire, Flames, Sparks etc.) Wear complete protective clothing and equipment Stop or reduce spill source, only if safe to do so and dike area of spill with sand or soil to prevent spreading. Pump the spilled product into other containers for recuperation and for other remaining residue, use absorbent substance.
*** METHODE D'ELIMINATION DES DECHETS ***	*** WASTE DISPOSAL METHOD ***
Disposer des produits contamines ainsi que des matieres utilisees pour le nettoyage du deversement, selon les reglements applicables	Dispose of contaminated products and all materials used for spill cleaning, according to applicable regulations.
SECTION -VIII- EQUIPEMENT DE PROTECTION	**SECTION -VIII- PROTECTIVE EQUIPMENT**
**** PROTECTION DES YEUX ****	**** EYE PROTECTION ****
Des lunettes de protection approuvees contre les eclaboussures de produits chimiques sont recommandees (Verifier avec vos fournisseurs)	Chemical splash goggles in compliance with OSHA regulations are recommended (Consult your safety equipment supplier)
**** PROTECTION DE LA PEAU ****	**** SKIN PROTECTION ****
Des gants de caoutchouc resistants sont recommandes (Consulter vos fournisseurs en equipement de protection)	Resistant rubber gloves are recommended, (consult your safety equipment supplier)
	* * * * * * * *
**** PROTECTION RESPIRATOIRE ****	**** RESPIRATORY PROTECTION ****
Respiratoire antipoussieres avec cartouche contre les vapeurs des produits, pour les con centrations jusqu'a 1000ppm est recommande.	An air-purifying respirator equipped with vapour cartridge for concentations up to 1000ppm is recommended.
**** VENTILATION ****	**** VENTILATION ****
L'installation de ventilateurs d'evacuation locaux est recommandee.	Local exhaust ventilation is recommended.
	* * * * * * *
**** AUTRE EQUIPEMENT PROTECTEUR ****	**** OTHER PROTECTIVE EQUIPMENT ****
Tablier et bottes etanches, douche d'urgence	Impervious apron and boots, safety shower

(SUITE)

et fontaine oculaire bien proche du lieu d'exposition aux produits chimiques.

SECTION -IX- DONNEES TOXICOLOGIQUES & AUTRES

NAPHTE DE PETROLE.....	DL/50: (ORL-RAT) NON ETABLI
	CL/50: (INH-RAT) 3400 PPM/4H
2-ETHOXYETHANOL.....	DL/50: (ORL-RAT) 3000 MG/KG
	CL/50: (INH-SOURIS) 1820 PPM/7H
ACETATE D'ETHYL	DL/50: (ORL-RAT) 5600 MG/KG
	CL/50: (INH-RAT) 8000 PPM/4H
NAPHTE.....	DL/50: (ORL-RAT) NON ETABLI
	CL/50: (INH-RAT) NON ETABLI
CETONE.....	DL/50: (ORL-RAT) 9750 MG/KG
	CL/50: (INH-RAT) 16000 PPM/4 H.

*** ATTENTION ***

Les contenants vides peuvent retenir encore du produit ou des vapeurs du produit. Observer toutes les mesures securitaires.

*** AVIS ***

Les renseignements contenus dans ce document sont fournis de bonne foi par GRAPHOBEC LTEE et ne sont donnes qu'a titre de guide sur la manutention du produit. Ces renseignements ne sauraient etre consideres comme complets, les methodes et les conditions d'emploi et de manutention pouvant s'etendre a d'autres aspects. Aucune garantie, quelle qu'elle soit, expresse ou tacite, n'est accordee et que GRAPHOBEC LTEE ne peut en aucun cas etre tenu responsable de dommages, pertes, blessures corporelles ou dommages fortuits pouvant resulter de l'utilisation des renseignements contenus dans ce document.

FIN

(CONTINUATION)

and eye bath located close to chemical products exposure area.

SECTION -IX- TOXICOLIGICAL DATA & OTHERS

PETROLEUM NAPHTA.....	LD/50: (ORL-RAT) NOT ESTABLISHED
	LC/50: (INH-RAT) 3400 PPM/4H
2-ETHOXYETHANOL.....	LD/50: (ORL-RAT) 3000 MG/KG
	LC/50: (INH-MOUSE) 1820 PPM/7H
ETHYL ACETATE.....	LD/50: (ORL-RAT) 5600 MG/KG
	LC/50: (INH-RAT) 8000 PPM/4H
NAPHTA.....	LD/50: (ORL-RAT) NOT ESTABLISHED
	LC/50: (INH-RAT) NOT ESTABLISHED
KETONE.....	LD/50: (ORL-RAT) 9750 MG/KG
	LC/50: (INH-RAT) 16000 PPM/4 H.

*** ATTENTION ***

Emptied containers may still retain vapors or product residues. Observe all safety measures.

*** NOTICE ***

The information contained in this document has been prepared in good faith by GRAPHOBEC LTD and is offered only as a guide to the handling of this product. It is not intended to be all-inclusive, the manner & conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and GRAPHOBEC LTD will not be liable for any damages, losses, injuries or consequential damages which may result from the use or reliance on any information contained in this document.

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END

APPENDIX K

EMERGENCY RESPONSE PLAN

TRANSCONTINENTAL LGM – CORONET

SAFETY MANAGEMENT SYSTEM
SAFE OPERATING PROCEDURE

SOP-SAF-033

Emergency Response

This Safe Operating Procedure (SOP) outlines the policy, procedure and program regarding emergency response procedures at Transcontinental LGM – Coronet. The program shall at a minimum meet all applicable municipal, provincial, or federal legislation and regulations.

PURPOSE:

Define emergency response policies and procedures for Transcontinental LGM - Coronet, including but not limited to emergency evacuation, and containment of chemical substance spills.

Transcontinental LGM - Coronet implements this emergency response plan and training with the objective of ensuring the safety and health of all workers, visitors, sub-contractors, and the public, during an emergency situation. In addition, the plan will:

- reduce the potential for causing property damage or further losses from production stoppage;
- assist response personnel to determine and perform remedial actions quickly and effectively;
- reduce any effect on the environment;
- reduce recovery times and costs; and
- create confidence in the response personnel and Transcontinental LGM – Coronet workers.

SCOPE:

This SOP applies to all employees at Transcontinental LGM - Coronet.

DOCUMENT CONTROL:

- Prepared By: Human Resources Advisor
- Controlled By: Human Resources Advisor
- Issued By: Human Resources Manager
- Approved By: Human Resources Manager

APPLICATION:

- All Departments
- All Transcontinental LGM - Coronet Employees, Visitors, Contractors and Associates

RESPONSIBILITIES:

Human Resources Manager:

- Ensure that this safe operating procedure reflects the requirements for emergency response.
- Ensures that the policy, procedure and program performance expectations are clearly communicated to subordinates or designates responsible for executing the procedure.
- Ultimately responsible for safe operating procedure execution; manages execution through performance management processes and records.

Management Team (Including Supervision):

- Demonstrates understanding of execution and performance expectations as directed by the HR Manager.

- Ensures that the policy, procedure and program are executed through subordinates or designates at acceptable performance levels.

Human Resources Advisor:

- Supports all stakeholders to ensure that information, materials and other supports are provided in a timely manner.

All Other Employees, Associates, Production, Support Staff, Visitors and Contractors:

- Comply with the provisions of this safe operating procedure.

POLICY:

In case of an uncontrolled condition (examples: fire, flood, severe weather, bomb threat, other) or serious incident (examples: serious injury, illness or fatality), all people in charge at Transcontinental LGM – Coronet shall follow appropriate response procedures in emergency situations.

Transcontinental LGM – Coronet has identified a number of situations, which would call for the use of an emergency response plan. These situations would include (but are not limited to):

1. Fire;
2. Explosion;
3. Chemical spill;
4. Serious injury or fatality;
5. Blizzards and other unexpected weather;
6. Bomb Threats;
7. Power failure;
8. Gas Leaks; and,
9. Water damage from overhead sprinklers.

All workers are responsible for ensuring that Transcontinental LGM – Coronet emergency response procedures are followed.

To ensure that workers can fulfill their responsibility, training will include worker orientation, regular review of emergency situation maps, new hire orientation, appropriate signage, regular review of emergency response equipment, and regular evacuation drills.

PROCEDURE:

DEFINITION OF SERIOUS INCIDENT:

The Manitoba Workplace Safety and Health Regulations definition of a serious incident or injury as one:

(a) in which a worker is killed;

(b) in which a worker suffers

(i) an injury resulting from electrical contact,

(ii) unconsciousness as the result of a concussion,

(iii) a fracture of his or her skull, spine, pelvis, arm, leg, hand or foot,

(iv) amputation of an arm, leg, hand, foot, finger or toe,

(v) third degree burns,

(vi) permanent or temporary loss of sight,

(vii) a cut or laceration that requires medical treatment at a hospital as defined in *The Health Services Insurance Act*, or

(viii) asphyxiation or poisoning; or

(c) that involves

(i) the collapse or structural failure of a building, structure, crane, hoist, lift, temporary support system or excavation,

(ii) an explosion, fire or flood,

(iii) an uncontrolled spill or escape of a hazardous substance, or

(iv) the failure of an atmosphere-supplying respirator.

Notice of serious incident

When a serious incident occurs at a workplace, the **highest ranking person in charge on site or that can be contacted to be present on site** at the time of the incident must immediately and by the fastest means of communication available, notify the Workplace Safety and Health Division of the incident and provide the following information:

(a) the name and address of each person involved in the incident;

(b) the name and address of the employer, and if any person involved in the incident is employed by another employer, the name and address of that other employer;

(c) the name and address of each person who witnessed the incident;

(d) the date, time and location of the incident;

(e) the apparent cause of the incident and the circumstances that gave rise to it.

An employer who becomes aware that information provided as per above was inaccurate or incomplete must immediately notify the division of the correct or complete information.

To notify the Workplace Safety and Health Division of a serious incident, contact:

Client Services, which is open 24 hours/day and 7 days/week

Phone: 204-945-3446

Site of serious incident to be preserved

Except to the extent necessary to free a trapped person or to avoid the creation of an additional hazard, and subject to a directive issued by a safety and health officer under the Act, an employer must ensure that nothing involved in a serious incident is altered or moved until at least 24 hours after the notice is given.

DEFINITION OF HIGHEST RANKING PERSON IN CHARGE:

See REF-SAF-005 Fire Marshal and Wardens List for a breakdown of highest ranking people in charge and alternates.

EVACUATION PROCEDURES: (COM-SAF-002 Emergency Evacuation Instructions)

Upon hearing the designated alarm or notification of an emergency situation all workers, sub-contractors, and visitors to the site must:

- shut down any equipment they are using (if possible);
- help others who are in need of assistance (if this does not put your safety at risk);
- evacuate the building via the nearest and safest exit (including all office employees in adjacent working structures); and,
- meet at the designated area shown in the Emergency Situation Map to have roll call taken by the appropriate designate. If the designated meeting area is unsafe, the designated highest ranking person in charge will advise of an alternate location deemed to be acceptable.

- Each area supervisor or other designate will, under the direction of the highest ranking person in charge, ensure a safe and orderly exit from each respective area including washrooms and offices.

The facility will follow specific site requirements for providing to the highest ranking person in charge a list of all employees and visitors thought to be in the facility.

Once all workers and visitors have been assembled in the designated meeting area (or alternate location if determined by the highest ranking person in charge) roll call will be completed.

During roll call, workers are required to remain calm and quiet and respond when their names are called. Workers are not permitted to smoke during evacuation or roll call. Any worker who does not cooperate fully with the evacuation or an evacuation drill will be subject to disciplinary action.

Once it has been determined that everyone is out safely, workers may not leave the roll call area, until instructed by the highest ranking person in charge.

If any individual is not accounted for the highest ranking person in charge will determine if, based on the nature of the emergency, it is safe to return to the facility to search.

If it is not absolutely clear that a search would not endanger the safety or health of any individual the highest ranking person in charge may not direct a search of the facility. Any worker requested by the highest ranking person in charge to search a facility may refuse to do so, without jeopardizing his employment. In most circumstances, the highest ranking person in charge will inform the responding emergency response personnel of the missing person(s) and wait for further instructions from them.

The highest ranking person in charge will confirm that emergency response personnel have been notified, in accordance with the Emergency Response Contact List (that must be located and kept up to date on site).

The highest ranking person in charge will determine the type of emergency response personnel expected to respond and, when indicated, will assign someone to notify of additional required response units or of a change in the emergency situation.

SAFE SHELTER IN EVACUATION:

See agreement with NAV Canada or other agreements in effect. Winnipeg Fire Paramedic Services could also arrange for shelter in an emergency situation in inclement weather.

EMERGENCY RESPONSE – GENERAL FIRE:

In the case of a general fire involving ordinary combustible materials or other flammables, ensure the following:

- Back away from the fire. Ensure that you put your safety first. Do not do anything that will further endanger you or others around you;
- Shout **"FIRE"** to alert others near the area of the situation and engage on-site emergency notification systems and sirens; and,
- Ensure that a Supervisor/Manager is notified of the situation and its location.
- Workers, supervisors, and managers may use one of the fire hoses or portable fire extinguishers shown in the Emergency Situation Map only if this will not jeopardize the health and safety of that individual or other workers, visitors, etc.
- If the fire situation is felt to be uncontrollable using the available onsite equipment, all individuals must immediately evacuate the facility.
- If fire alarms are determined to be inoperable, begin verbally informing everyone in the plant of the need to evacuate using the evacuation procedures outlined above.

EXPLOSION:

As part of the operation at Transcontinental LGM - Coronet, highly flammable liquid chemicals are used. All flammables are stored in areas equipped to minimize/prevent the risk of serious injury and property damage.

Due to the explosion potential present, precautions must be taken to ensure the health and safety of plant personnel.

Evacuation should be conducted as outlined above (see GENERAL FIRE and COM-SAF-002 Emergency Evacuation Instructions).

Should an explosion occur prior to anyone becoming aware of a fire situation, begin Evacuation Procedures outlined above. Under no circumstance, should an attempt be made to put any remaining fires out. Evacuate the building as quickly and safely as possible. There may be secondary explosions or flare-ups as the fire continues to spread.

CHEMICAL SPILL:

Chemicals present at Transcontinental LGM - Coronet have the potential to cause environmental damage by entering the sewer system through floor drains or start a fire or explosion due to their flammability.

Upon becoming aware of a spill situation in the plant, immediately notify a supervisor or manager. The individual notified will then activate the emergency response procedures as listed below.

- Ensure that all non-responding employees have been removed from the area;
- Ensure that all sources of ignition have been removed from the spill vicinity;
- Obtain chemical resistant gloves and eye protection to avoid eye and skin contact;
- Establish a barrier using on-site spill specific absorbents to prevent liquid from spreading or reaching a drain;
- Begin soaking up the liquid using the pad absorbents. Allow the material to soak up the liquid before removing; and,
- Dispose of the absorbents in the appropriate plastic bags and dispose of them according to the material safety data sheets (MSDS).
- Never willfully discharge chemicals or other products by uncontrolled means across land surfaces. Always dispose of chemicals according the standard work procedures.

SERIOUS INJURY OR FATALITY:

During a situation which involves a serious injury or fatality:

- Inform a first aider of the situation, if they have not already been notified,
- Shut down any equipment that may pose additional hazards to the individual or responding first aider(s), move items at the scene only if it is to free the worker(s) in question or to eliminate the creation of an additional a hazard;
- Secure the scene. Keep other workers and visitors back far enough from the scene so they will not become an additional hazard;
- Call an on site shift Supervisor to the scene and provide as much information as possible regarding incident details;
- If a shift Supervisor is not on site, it is the person in charge's responsibility to phone a Senior Manager, as listed on the Emergency Contact List, as soon as the incident site is secure and any injured employee has been attended to. Leave messages where possible and continue to call down the list until you get a person on the line. Relate the incident information and take additional direction as required;

- In any circumstance where a person is involved in a serious incident a serious laceration that requires extensive medical treatment, the shift Supervisor or Senior Manager will provide direction, and will ensure that the Division is notified in a timely manner appropriate to the serious incident situation;

- Follow any instructions given by the first aider(s) responding.

- The first aider responding to the situation will need to assess the situation and determine what initial treatment is required. All steps taken should be in accordance with the First Aid training that has been provided.

- In serious injury situations, the first aider must never attempt to transport the injured worker to the hospital. An ambulance must be called. Once emergency response services arrive, they will be able to take over any injury treating procedures.

- In the case of serious injury or fatality, the plant manager and on-site health and safety coordinator must immediately be verbally notified. Other services (ie: Employee and Family Assistance Program) may be engaged, depending on the situation.

EXTREME BLIZZARDS AND ANY OTHER DANGEROUS WEATHER CONDITIONS:

Rain storms, snow blizzards, tornados and other extreme conditions are possible. Emergencies related to abnormal weather requires all individuals to remain calm and stay indoors.

If the wind is extremely strong, office staff situated in the front office area should remove themselves to the production area. In doing this, they will be protected from potential flying debris or shattered glass.

Plant workers must ensure that all equipment has been shut down in the manner prescribed and report to their Supervisor/Manager to be accounted for.

BOMB THREATS:

In most situations involving a bomb threat, the main receptionist or other office staff will take the call. If a bomb threat is received, the receptionist (or other staff) should ensure the following information is obtained from the caller:

- Time of call;
- What was said;
- Why this company was targeted;
- Who is calling; and
- What time will the bomb go off.

Once the call has been completed, the receptionist must immediately notify the most senior person on the site. The senior management member notified must then ensure that the police are informed of the threat and initiate the evacuation procedures outlined previously.

POWER FAILURE:

In the event of a power failure, the potential for injury is present should machines start up unexpectedly once power has resumed.

To ensure safety, all equipment must be shut down. The highest ranking person in charge will advise of a meeting location and provide additional direction. Generally, the plant should be evacuated prior to emergency lighting expiring.

Depending on the situation that has caused the power shortage, various control measures aimed at reducing the risk of injury may be implemented. Avoid running out of emergency lighting provisions. Evacuate or get positioned prior to complete black out.

GAS LEAKS:

Should a gas leak occur, a strong, irritating odour may become evident in the plant. Immediate evacuation of the plant must occur. To initiate this, the emergency response alarm or notification system must be activated (ie: by pulling one of the pull stations in the area).

Due to the extreme explosion potential the highest ranking person in charge , supervisors, and managers must ensure that the evacuation occurs as quickly and safely as possible and in accordance with the procedures outlined in the Evacuation section of this plan.

WATER DAMAGE FROM OVERHEAD SPRINKLER (FLOOD):

An overhead sprinkler may be activated because:

- Accidental damage or break in line; or
- Fire.

In either case, a monitoring company will be notified of the situation, due to the pressure drop in the sprinkler system. The monitoring company will then notify the Fire Department who will respond to the situation.

In either a fire situation or an accidental release, the following procedures are to be followed:

- Back away from any electrical equipment or machines that you are using immediately as the risk for electric shock is extremely high at this point. Do not attempt to shut your equipment down or touch it in any way;

- Notify a supervisor or manager of the situation if they are not already aware. The highest ranking person in charge, supervisor, or/and manager will become responsible for keeping people out of the area. The highest ranking person in charge will take steps, that would not compromise the safety and health of any individual to ensure the power supply to the area is shut off at the main electrical box and locked out by using the lockout procedures.;

- Evacuate the affected area or entire plant, depending on whether the situation was caused by damage to the pipes or a fire situation. This will be determined by either the highest ranking person in charge , supervisor or manager after an assessment has been completed; and,

- Once the situation has been effectively controlled, it may be determined that clean-up is required. The supervisor/manager must ensure that power supply to the area has been disconnected before any clean up efforts commence.

AFTER HOURS EMERGENCIES:

Production at Transcontinental LGM - Coronet may occur 24 hours a day, 7 days each week. As a result, Transcontinental LGM - Coronet may have a situation arise when there are limited management team members present. Should an incident occur “after hours”, additional management team members must be notified of the situation immediately.

The responsibility to contact individuals listed on the Emergency Contact List, will be the responsibility of the most senior supervisor/manager or person in charge available.

ADDITIONAL REPORTING REQUIREMENTS:

Depending on the severity of the situation and the outcome of the event, additional reporting requirements may be necessary. Any additional reporting will be managed by the Human Resources Department or a member of the on-site management team.

EMERGENCY SITUATION DRILLS: (FRM-SAF-014 Emergency Evacuation Drill Procedure Form)

To ensure workers understand and are able to respond safely, emergency situation drills will be conducted on a regular basis. These drills will be used to identify any deficiencies in the program and any corrective action(s) required to rectify the deficiency.

A written report will be completed immediately following the drill. The documentation will provide information as to the date and time of the drill, any deficiencies observed and the corrective action(s) necessary as a result.

This information should be kept on file indefinitely and serve as documentation that the drill occurred.

REFERENCES:

All associated safety documents.

REVIEW MASTER:

Review #:	Reviewed By	Review Date
1	Human Resources Manager and Human Resources Advisor	2008-09-15
2	Human Resources Manager and Human Resources Advisor	2009-03-23
3	Human Resources Manager and Human Resources Advisor	2010-01-22

REVISION MASTER:

Revision #:	Revision Detail	Revision Date
1	Conversion of Transcontinental LGM - Coronet Health and Safety Manual to new format and to ensure compliance to 2006 Manitoba Legislation and regulations.	2008-09-15
2	Added Client Services contact number to report serious incidents to the Workplace safety and Health Division.	2009-03-23
3	Added cover page. Added names to document approval section.	2010-01-22
4	Correct reference name from REF-SAF-002 to COM-SAF-002	2011-10-21

DOCUMENT APPROVAL:

Approved By: Human Resources Manager Donna Plischke	Signature:
Issued By: Human Resources Manager Donna Plischke	Signature:
Controlled By: Human Resources Advisor Carol Hourd	Signature:
Prepared By: Human Resources Manager Donna Plischke	Signature:

SAFE OPERATING PROCEDURE REVIEW AND ACKNOWLEDGMENT

Review Instructions:

1. Provide each worker with a hard copy of this document or print off this page only and provide employee access to the document through the electronic SMS system.

2. Have each worker read this document self paced or review document in a group setting (hard copy or electronically)

3. The Worker, if unsure about meaning of content of the document, is to ask any questions of their Supervisor, Manager or Person in Charge to ensure understanding.

4. Supervisor, Manager or Person in Charge shall answer any worker questions or obtain answers for the worker should they be uncertain as to the correct answer or interpretation.

5. Worker to sign off acknowledgement at step 6.

6. I have read this document, and have reviewed any questions or concerns regarding the content with my Supervisor or Manager.

_____ _____

Employee Name (Print) Employee Signature

_____

Date (yyyy/mm/dd)

7. Supervisor, Manager or Person in Charge shall ensure workers questions are answered then forward worker signed acknowledgment (this page only) to Human Resources Department for filing.

8. End of Process