

Environment Act Proposal Form



Name of the development: Altona Manufacturing Facility		
Type of development per Classes of Development Regulation (Manitoba Regulation 164/88): Class 2 Manufacturing Plant		
Legal name of the applicant: A&I Products Canada Inc.		
Mailing address of the applicant: 432 Railway Street South		
Contact Person: Gary Krahn		
City: Altona	Province: Manitoba	Postal Code: R0G 0B0
Phone Number: (204) 384-8621	Fax:	email: gkrahn@aiproducts.com
Location of the development: Altona		
Contact Person: Gary Krahn		
Street Address: 432 Railway Street South		
Legal Description: 13—509 S 1/2 ORG SE-05-02-01-W		
City/Town: Altona	Province: Manitoba	Postal Code: R0G 0B0
Phone Number: (204) 384-8621	Fax:	email: gkrahn@aiproducts.com
Name of proponent contact person for purposes of the environmental assessment: Mauricio Barrera		
Phone: (519) 340-3801	Mailing address: 455 Phillip Street, Waterloo, Ontario	
Fax:		
Email address: mauricio.barrera@ghd.com		
Webpage address: www.ghd.com		
Date: 2019-04-09	Signature of proponent, or corporate principal of corporate proponent: 	
	Printed name:	Gary Krahn

PRINT

RESET



Date: April 9, 2019

Manitoba Sustainable Development
Environmental Approvals
1007 Century Street
Winnipeg, MB
R3H 0W4

Attention: The Director

Dear Ms. Burland Ross,

A & I Products Canada Inc. is hereby submitting an application under the *Manitoba Environment Act* for a license to operate a combine parts manufacturing facility, a Class 2 Manufacturing plant under the *Manitoba Environment Act* Classes of Development Regulation, at 432 Railway Street South in Altona, Manitoba.

There are no proposed changes to the current facility. This application seeks to bring the facility into compliance with the Licensing Procedures Regulation, Manitoba Regulation 163/88. Operations at the facility include the after-market manufacture and supply of 1400 different line parts that are used in many makes and models of combine equipment.

Processes vary depending on the type of equipment parts produced, though the general theme includes cutting, bending, punching, welding, assembly, and painting.

We look forward to maintaining high standards around the protection of environmental and human health as a priority and to working with your team as we proceed through the application process.

Should you have any questions or concerns, please do not hesitate to contact the writer at gkrahn@aiproducts.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gary Krahn'.

Gary Krahn
A & I Products Canada Inc.
432 Railway Street South
Altona, MB R0G 0B0



Development Environmental Assessment Report

A & I Products Canada Inc.
432 Railway Street South
Altona, Manitoba
R0G 0B2

Prepared by GHD on behalf of:
A & I Products Canada Inc.

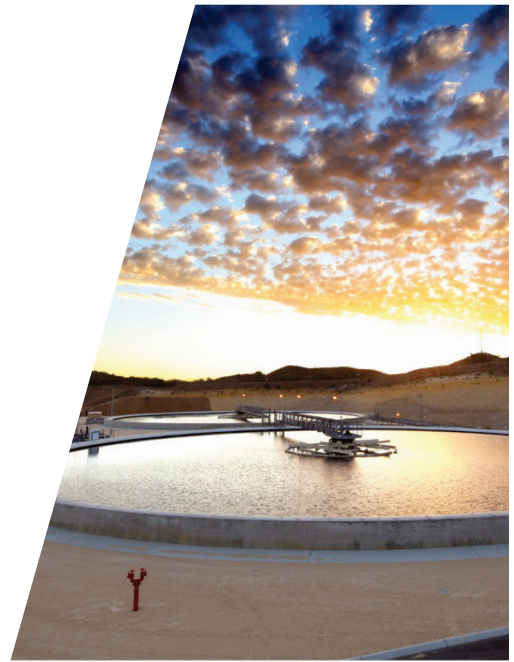




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1. Introduction and Background

GHD Limited (GHD) was retained by A & I Products Canada Inc. (A & I) to prepare an Environment Act Proposal Report for the manufacturing facility located at 432 Railway Street South in Altona, Manitoba (Site or Facility) where farm combine parts are manufactured. A & I requested that GHD prepare the report in support of the Environment Act License application for the Site. The following report is structured in accordance with requirements of the Licensing Procedures Regulation (Manitoba Regulation 163/88) and specifically the Information Bulletin - Environment Act Proposal Report Guidelines dated March 2018 issued by the Environmental Approvals Branch. The Facility would be considered a Class 2 Manufacturing plant under Section 3(4) of the *Manitoba Environment Act* Classes of Development Regulation.

A Site Location map is presented on **Figure 1**. A Site Plan is presented on **Figure 2**.

1.1 Facility Operations

The Facility employs approximately 43 people and manufactures approximately 4 million pounds of product annually. Operations at the Site include the after-market manufacture and supply of 1,400 different line parts that are used in many makes and models of farm combine equipment. Raw materials, including, but not limited to wood, metal sheeting, metal bars in a variety of shapes, sizes, and lengths, and paints are received at the Facility.

Processes vary depending on the type of equipment parts produced. As for common parts, such as concaves, the process includes welding, metal bending, manually inserting the rods into the metal brackets, and painting (dip painting). Each part has a unique manufacturing process, though the general theme includes cutting, bending, punching, welding, assembly, and painting (both manual and via presses).

The property is developed with several buildings and structures including a Production Building, Office and Shipping Building, Raw Material Tent and a Samples Storage Tent.

The Office and Shipping Building is located along the southern boundary of the property and is connected to the Raw Material Tent. The Raw Material Storage Tent is used for the storage of metal, wood, pallets, and other raw dry products. The shipping area is for final storage, packaging, and shipping to a central warehouse.

North of the Office and Shipping Building is the Production Building. Raw materials are transported from the Raw Material Tent to the Production building via forklift, as required for production needs. The Production Building is separated into two major groupings; West Shop and East Shop.

A Facility Layout is presented on **Figure 3**.

Below is a list of departments in the production building:

West Shop

- Area 1100 Machining
- Area 1200 Tumbler
- Area 2100 Maintenance



- Area 2200 Welding Area 2
- Area 3100 Induction Hardening
- Area 3200 Cylinder Bars – Drill/Punch
- Area 3300 Outdoor Storage/Production Shelter
- Area 4100 Welding Area 3
- Area 4200 Dip Paint
- Area 4300 Robot Area 2
- Area 4400 Slats. Re-cappers

East Shop

- Area 5100 Production Offices
- Area 5200 Prod. Loading Dock
- Area 5300 Bar/Saw Cutting
- Area 6100 Welding
- Area 6200 Brake and Shear
- Area 6300 Robot Area 1
- Area 7100 Chaffers
- Area 7200 Louver Production Rolling

An Operational Floor Plan detailing Facility operations and their locations is presented on **Figure 4**.

1.1.1 Cutting Operations

Cutting operations at the Facility include bar/saw cutting, brake and shear operations. Detailed information for the cutting operations include, but are not limited to:

- Semi-automatic industrial band saw cutting: material is fed into this machine, which is later used for a bundle of steel/tubing. Waste generated includes material that is too short to be used and metal shavings, which are all collected into a scrap metal bin.
- Bar-cutter (ironworker): this machine shears single length bars of steel and is used for single bars of steel only. Waste generated includes material that is too short to be used, which are collected into a scrap metal bin.
- Break & Shear: this machine is used to cut sheets of metal. Waste generated includes cut offs that are too small to be used for any part, which are collected into a scrap metal bin.

Metal shavings with cutting fluid or rust prevention oil coating are also collected into the same bin, along with clean scrap metal. Scrap metal is removed for off-Site disposal at a recycling facility by Gerdau Manitoba Recycling.



1.1.2 Machining Operations

Machining operations at the Facility include, but are not limited to:

- Turning - manual lathe and computer numerical controlled [CNC] lathe
- Milling - CNC milling machines
- Drilling - CNC milling machines with a different attachment than milling
- Drilling of rasp bars - multi-spindle drilling machine - moving of the rasp bars is a manual process

Waste generated from the machining operations include metal shavings with traces of cutting fluid and rust preventive oil, which are collected into a scrap metal bin and removed for off-Site disposal at a recycling facility by Gerdau Manitoba Recycling.

1.1.3 Welding Operations

There are three methods of welding employed at the Facility; Metal Inert Gas (MIG) welding, robotic welding and resistance welding. MIG welding is the main method of welding utilized at the production facility. Thirteen welding stations are present on Site, complete with snorkels and exhaust hoods to carry the fumes to the exhausts stacks which discharge to the outside ambient air.

A building layout plan showing welding intake and exhaust locations is presented on **Figure 5a**.

1.1.4 Induction Hardening

Induction hardening is completed during manufacturing process in which the various parts undergo surface hardening and then quenched. The induction hardener operates on a closed loop system, in which the cooling water and cooling fluid (glycol) are re-circulated and not exposed to the environment. The cooling water in the closed loop system will eventually collect sediments (approximately once a year). At that time, the sediments of the cooling water are stored in a drum and removed off Site by Clean Harbor.

Contact water or quench water, which is the water that makes contact with the material, is discharged to the municipal sewer collection system. Quench water analytical results are further discussed in Section 4.1. A building layout plan showing induction hardener hood and exhaust locations is presented on **Figure 5c**.

1.1.5 Paint Booth Operations

Painting operations are carried out in the West Shop paint room (Area 4200). Parts are dip painted and stored to dry in the paint room. Capture of volatile organic compounds (VOCs) from the painting activities is achieved via a grill exhaust fan beside the tank that pulls the air out of the Facility and exhausts it to the atmosphere via roof mounted stacks. Three paint fume intakes combine to share one exhaust stack located on the north side of the paint room building. Two new intakes exhaust separately via stacks located on the north side of the paint room building. These two new paint and stack locations are currently not in service. One additional new paint process includes three fume intakes that combine to one output stack that exhausts to the north side of the paint room building. There are no VOC filtration systems currently in place at the paint booths.



A building layout plan showing paint intake and exhaust locations is presented on **Figure 5d**.

2. Description of Proposed Development

The Site is located at 432 Railway Street South, Altona, Manitoba, in the Municipality of Rhineland. This location is presented on **Figure 1**.

The legal description of the land is as follows:

13—509

S 1/2

ORG SE-05-02-01-W

The Certificate of Title is included as **Appendix A**. The property boundaries are outlined on **Figure 2** and the property consists of 1.76 acres. The land owners are Lloyd, Warren, and Lin Loewen. A & I Products leases buildings on Site for the fabrication of after-market metal combine parts.

The Facility consists of a production building, office, and shipping area. There are two unheated canvas tent structures for materials and parts storage. Raw materials stored on Site include wood and metal scrap recycling bins and steel stored on sheltered racking. A Facility Layout is presented on **Figure 3**.

There are currently no mining claims, mineral leases, or mineral exploration licenses associated with this property¹.

Land use designation for the Facility is Settlement Centre as identified in Development Plan 3-2011 by the Rhineland, Plum Coulee, Gretna, Altona Planning District². Surrounding land use designation includes Restricted Agricultural and Residential. Aerial photography and information provided by A & I indicates the following adjacent land use:

- *North*: Agricultural land and a residential dwelling
- *East*: Agricultural land
- *South*: Residential dwelling
- *West*: Railway Street and residential dwellings and agricultural land

Current land use includes the operation of a manufacturing facility for the fabrication of metal combine parts. A & I began operations at the facility in 2007. Prior to A & I operations, Loewen Manufacturing operated on the Site between 1959 – 2007, reportedly, conducting similar operations to the present manufacturing activities. Prior to Loewen Manufacturing, the Site was used for agriculture. Loewen have owned the property since 1959.

This report documents the current operations and there is no planned re-development of the property.

¹ Manitoba Mineral Resources 2013: Mining and Quarrying, Manitoba; in Map Gallery – Geoscientific Maps, Manitoba Mineral Resources, <http://www.manitoba.ca/iem/geo/gis/index.html> [May 8, 2018]

² Manitoba Municipal Relations 2017: Land Use and Development Web Application, http://www.gov.mb.ca/mr/land_use_dev/index.html [May 8, 2018]



3. Description of Existing Environment in Project Area

3.1 Biophysical Environment

3.1.1 Topography and Hydrology

The Facility is located at an elevation of approximately 250 meters above mean sea level and is generally flat. Surface water at the Facility drains northeast towards the pond located on the subject property. The Facility is located in the plains of central Canada; therefore, the surrounding area is generally flat with no notable topographic trend. The nearest surface water body is an on-Site pond, located in the northeast corner of the subject property. The only named surface water body locally is Buffalo Creek, with the nearest point located approximately 5 km west. Regionally, the Red and Roseau Rivers are located approximately 30 km to the east.

3.1.2 Geology and Hydrogeology

According to the Manitoba Geological Survey's Surficial Geology Compilation Map Series (Sheet 62H), the surficial materials in the vicinity of the Facility are generally comprised of offshore glaciolacustrine sediments which consists of clay, silt, and minor sand that range from 1 to 20 meters in thickness.

The Manitoba Geological Survey's Bedrock Geology Compilation Map Series (Sheet 62H) shows the vicinity of the Facility underlain by bedrock from the Interlake Group, which consists of stromatolitic, fragmental, fossiliferous dolomite, with thin argillaceous and arenaceous marker beds. Depth to bedrock in the area is approximately 50 meters.

Groundwater flows to the northeast. No groundwater wells were identified in the Environmental Risk Information Services Report, included as **Appendix B**, within 0.25 km of the Facility.

3.1.3 Regional Climatic Conditions

Manitoba is classified as a Prairie climate zone which features four distinct seasons: cold and dry winters, temperate summer and autumn seasons, and typically hot summers³. According to Environment Canada, the average annual temperature in Altona is 3.9°C, with daily average temperatures broadly ranging from -15°C in January to 20.3°C in July. Mean annual precipitation is reported as 565.8 mm, with peak rainfall occurring between May and August.

3.1.4 Regional Terrestrial Environment

The Facility is in close proximity to the Town of Altona, and is surrounded by agricultural and residential land. The disturbed nature of the landscape limits suitability of the area to wildlife. Of the species listed by Conservation Manitoba as designated for targeted management, those that may occur in the Facility region include deer, weasels, gophers, raccoons, red foxes, coyote, squirrels, rodents, songbirds, ravens, ducks, various insect species, and small amphibians or reptiles that may

³ Government of Manitoba 2017: Overview Geography, <https://www.gov.mb.ca/jec/invest/busfacts/overviews/geography.html> [May 9, 2018]



be found in low lying areas. The vegetative environment is historically grassland that has been converted to farmland, and is relatively treeless with the exception of aspen, oak, willow, and poplar that can occur in river valleys⁴. Mixed prairie grasses and wildflowers occur on the periphery of disturbed areas.

According to Manitoba's Wildlife Area Management Map, there are no Wildlife Management Areas within an approximate 70 km radius of the Facility.

A query of the Manitoba Conservation Data Centre's rare species database has found no occurrences in proximity to the Facility. Correspondence on this finding is included as **Appendix C**.

3.2 Socioeconomic Environment

The Facility is surrounded by agricultural and residential lands and it employs approximately 43 people.

According to online maps by Manitoba Parks and Protected Spaces Branch, there are no Provincial Parks within an approximate 70 km radius of the Facility. The nearest Provincial Park is Riding Mountain National Park which is approximately 330 km northwest.

The closest National Historic Site is in Winnipeg. According to online data presented by Manitoba's Historic Resources Branch, the closest heritage sites and resources are located in central Altona approximately 1.5 km north of the Facility. Manitoba's Historic Resources Branch has indicated that there are no concerns related to heritage resources associated with the Facility. This correspondence has been included as **Appendix D**.

The nearest First Nation community is Roseau River Reserve No. 2 at an approximate distance of 28 km from the Facility⁵.

4. Description of Environmental and Human Health Effects of the Proposed Development

4.1 Impact on Biophysical Environment

Sediments

A subsurface investigation conducted in 2011 identified the presence of metals and petroleum hydrocarbons in sediment samples collected from the on-Site pond located on the northeast corner of the property. These contaminants were detected at levels exceeding the Canadian Council of the Ministers of the Environment (CCME) Water Quality and Sediment Guidelines for the Protection of Aquatic Life. Laboratory data from the investigation suggested that the practice of transferring cooling water used in the manufacturing process to the pond may be the source of these contaminants, as well as the historic use of copper-containing algaecide. Cooling water is no longer transferred to the pond and copper-containing algaecide is no longer used. The induction hardener

⁴ Manitoba History and Geography 2018: <https://www.britannica.com/place/Manitoba> [May 9, 2018]

⁵ Government of Canada 2017: First Nation Profiles Interactive Map, <http://fnpim-cippn.aandc-aadnc.gc.ca/index-eng.html> [May 8, 2018]



operates on a closed loop system, in which the cooling water/fluid (glycol) are re-circulated and not exposed to the environment. The cooling water/fluid in the closed loop system will eventually collect sediments (approximately once a year). At that time, the cooling water is stored into a drum and remove for off-Site disposal by Clean Harbor. Impacted sediments in the vicinity of the pond are not anticipated to cause effects to human health as impacts are localized, not in an area of work for employees, and not likely at levels considered as contaminated or posing a risk to human health. Mitigation is discussed further in Section 5.

Surface Water

Surface water samples from the 2011 subsurface investigation collected from the pond and from the pond's outflow did not exceed CCME guidelines.

Storm water is piped to an on-Site management pond on the northeast corner of the property. As the region is generally level, runoff is likely to remain in the pond. Periodic monitoring to ensure impacts are not occurring to surface water is discussed further in Section 6.

Process and sanitary water is sourced by means of a municipal connection and no surface water is withdrawn. In January 2019, a sample was collected of the process water to determine quality prior to discharge to the sanitary sewer. The sample was collected from the machine quench tank and submitted to a laboratory for metals, petroleum hydrocarbons (PHCs), VOCs, oil and grease, pH, biochemical oxygen demand (BOD), and total suspended solids (TSS) analysis. The water from this tank represented the process water quality prior to discharge to the sewer.

The process water analytical results were assessed to the Town of Altona Sewer By-Law (hereafter referred to as Sewer By-Law).

The quench process discharge water sample analyzed had all parameters that were non-detect or had concentrations below the applicable Sewer By-Law.

Process water laboratory analytical results are presented in **Appendix E**.

Sanitary wastewater effluent is discharged into two septic tanks. It is reported that the septic tanks are serviced annually as arranged through the Rhineland Municipality, and service is typically provided by Brown's Septic Service.

Groundwater

Impacts to groundwater from the Facility have not been detected during previous sampling and are not anticipated. Storm water runoff is channeled to the management pond and Site geology limits infiltration. Periodic monitoring to ensure impacts are not occurring to groundwater is discussed further in Section 6.

Wildlife and Vegetation

The Facility is in close proximity to the Town of Altona, and is surrounded by agricultural and residential land. The disturbed nature of the landscape limits suitability of the area to wildlife and vegetation, and there are no occurrences of rare species in the area. Based on the limited suitability of the area as habitat, and on the contained nature of Facility operations, little to no impacts are anticipated to plants or wildlife.



Aquatic

The Facility and its operations will not affect fish or fish habitat. Fish habitat is not encountered, crossed, or impacted by this Facility.

Forestry

As the Facility is located in an agricultural and residential area, there are no known impacts to forestry activity.

4.2 Hazardous and Non-Hazardous Waste

Based on information provided by A & I, hazardous waste materials temporarily stored at the Facility include paint, coolants, lubricants, batteries, and machine oil. These materials are stored outdoors in an ENPAC spill containment unit, and are picked up quarterly by Clean Harbors for disposal. A & I has conveyed that there are typically two 200-litre drums accumulated for pickup in each quarter, and that Facility staff have been trained in dangerous goods handling consistent with Transport Canada requirements. The Facility's Emergency Response Plan has been included as **Appendix F**.

Based on the minimal amount and containment of hazardous materials at the Facility, effects to human health or the environment are not anticipated.

Non-hazardous wastes and recyclables including general refuse, wood, cardboard, paper, and scrap metal are picked up by licensed commercial haulers. The scrap metal consists of metal shavings/turnings that are collected in a bin and removed for off-Site disposal at a recycling facility by Gerdau Manitoba Recycling.

4.3 Chemicals, Hazardous Substances, and Petroleum Products

Based on information provided by A & I, the following chemical, hazardous, and petroleum substances are stored on Site: cleaners, compressed gases, paints and surface coatings, petroleum and hydraulic oils, and solvents. These materials are stored in flammable material and explosion proof cabinets and labeled in accordance with Material Safety Data Sheets (MSDS) standards outlined by the Canadian Centre for Occupational Health and Safety. MSDS information is managed and updated using a 3E database. Fire and chemical spill emergency management protocols are outlined in **Appendix F**. Based on the highly controlled nature of these substances, adverse effects to the environment or human health are not likely.

Pertinent MSDS documentation associated with production materials are provided in **Appendix G**.

4.4 Climate Change Implications

A & I has indicated that air emissions are below thresholds set by the National Pollutant Release Inventory (NPRI), and accordingly NPRI reporting is not required. Emissions sources include air exhaust fans in the production building (welding, induction hardening), gas fired heaters fueled by natural gas in the production and office buildings, and exhaust fans for the paint system. There are currently no planned production increases that would affect emission levels. Significant impacts to human health or the environment are not anticipated.



Building layout plans showing welding intake and exhaust, natural gas exhaust, induction hardener hood and exhaust, and paint intake and exhaust locations are presented on **Figures 5a, 5b, 5c and 5d**, respectively.

4.5 Potential Implications to Socioeconomic Factors and Human Health and Safety

There have been no enforcement actions related to environmental or health concerns to date, and based on the contained nature of the operation, there are no future anticipated public safety or human health risks in relation to the Facility.

The Historic Resources Branch has determined there are no known heritage resources in the immediate area of the Facility (**Appendix D**).

Impacts to Indigenous communities related to natural or heritage resources and cultural or traditional activities and are not anticipated based on distance to the nearest community being approximately 28 km to Roseau River Reserve No. 2.

5. Mitigation Measures and Residual Environmental Effects

Mitigation measures in place to prevent unnecessary risks to human health and the environment include the update and management of MSDS information using 3E, dangerous goods handling training for employees, an Emergency Response Plan including fire and chemical spill protocols, and appropriate, effective hazardous waste and chemical storage units.

In relation to historical impacts identified in Section 4.1, a monitoring program will be developed to periodically monitor water and sediment quality of the on-Site pond, its discharge points on property boundaries, and relevant groundwater locations to ensure compliance with applicable regulatory guidelines. Cooling water is no longer transferred to the pond and copper-containing algaeicide is no longer used in order to reduce any potential for impacts to water and sediment quality.

6. Follow-up Plans, Including Monitoring and Reporting

A monitoring program will be developed as described in Section 5. A & I staff are in contact with Manitoba Conservation and Manitoba Water Stewardship to determine any applicable regulations and responsibilities around historical impacts, and any applicable monitoring and reporting requirements moving forward.

The maintenance of existing materials handling and health and safety systems will be necessary, including continued management of MSDS information using 3E, periodic renewal of dangerous goods handling training for employees, periodic review and updating of the Emergency Response Plan, and ensuring that hazardous waste and chemical storage units are replaced when necessary.



Based on GHD's review, the importance of environmental compliance is well-recognized as a priority by A & I Products Canada Ltd.

7. Closure

The scope of professional services provided to the Client is contained in the proposal by GHD (the Consultant) to the Client and in the contract between GHD and the Client. The information presented in this report is representative of the Consultant's best professional judgement as applied within the defined scope of work and based on the information provided by the Client. Any conditions not recorded in this report were not discernible to the Consultant within the defined scope of work or information provided by the Client, and no liability is accepted by the Consultant for any costs incurred by the Client for subsequent identification or amendment of such conditions.

The Consultant accepts no liability in relation to third party use of this report; any third party use of this report and any damages resulting from such use are the responsibility of such third party. GHD has prepared this report on the basis of information provided by the Client and others who provided information to GHD (including Government authorities), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

All of Which is Respectfully Submitted,

GHD

Reviewed by:

Tom Guoth, P. Eng.

Mauricio Barrera, MAsc.

Prepared by:

Nicholas Bauer, P. Eng.



Sources:

- Image derived from Microsoft Product Screen Shot(s) Reprinted with permission from Microsoft Corporation, Accessed: 2018.
- Approximate Site boundary derived from ERM drawing, Figure 2, Project No. 0122081, 10/06/2010.



A & I PRODUCTS
 432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
 DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

11157020-98
 Sep 13, 2018

SITE LOCATION

FIGURE 1

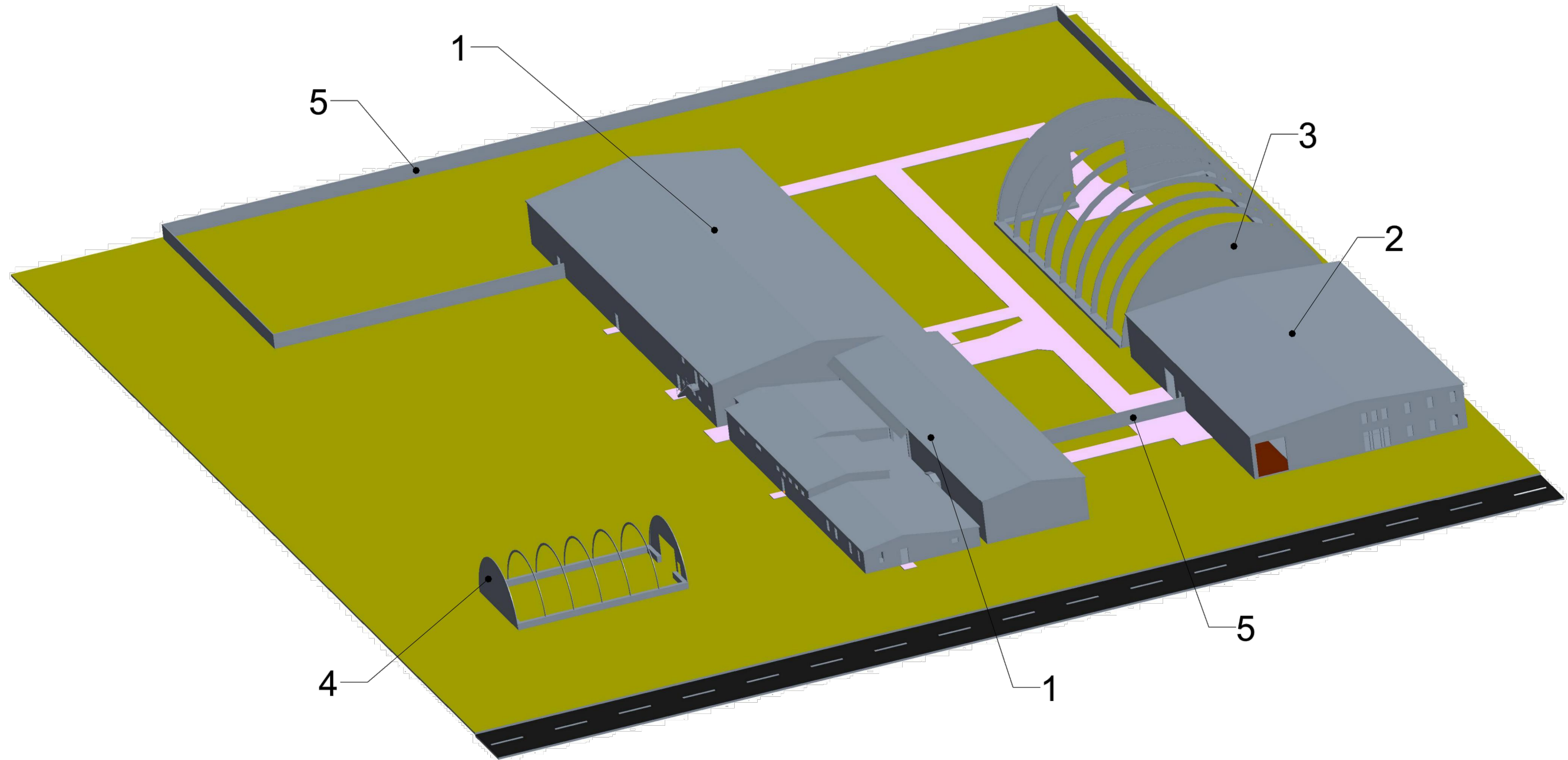


A & I PRODUCTS
 432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
 DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

11157020-98
 Mar 21, 2019

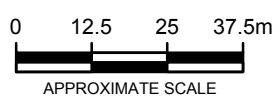
SITE PLAN

FIGURE 2



- 1. PRODUCTION BUILDING, HEATED
- 2. FRONT OFFICE & SHIPPING, HEATED
- 3. MATERIAL STORAGE, NOT HEATED, CANVAS
- 4. PARTS STORAGE, NOT HEATED, CANVAS
- 5. CHAIN LINK FENCE

SOURCE: A & I PRODUCTS, PART NUMBER: A_I_ALTONA_FACILITY, SHEET: 1/2, REV: 0, ORIGIN DATE: 09/13/13.



A & I PRODUCTS
 432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
 DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

FACILITY LAYOUT

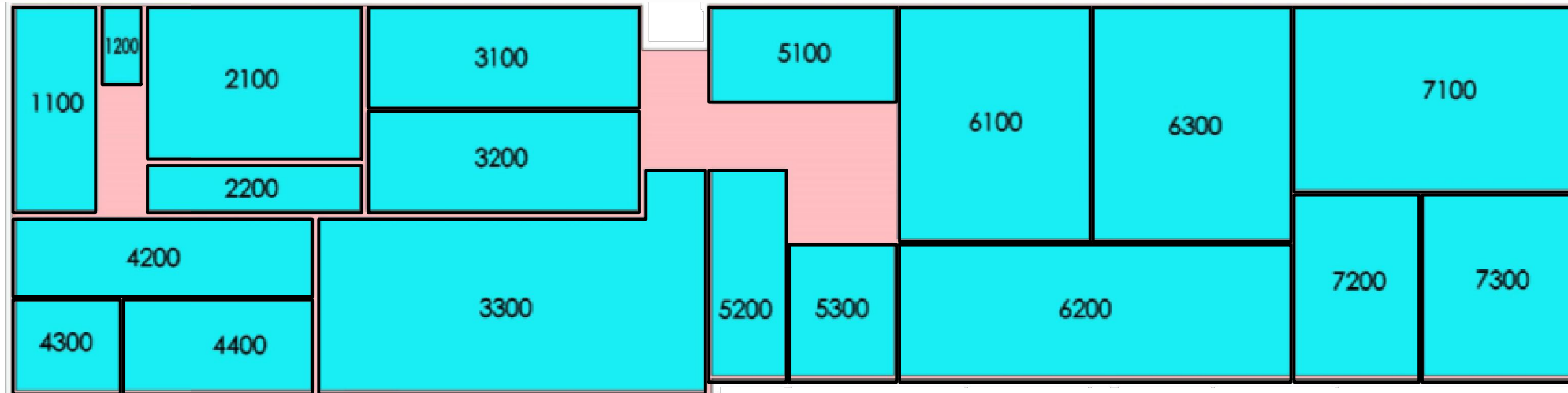
11157020-98
 Mar 13, 2019

FIGURE 3

PRODUCTION BUILDING

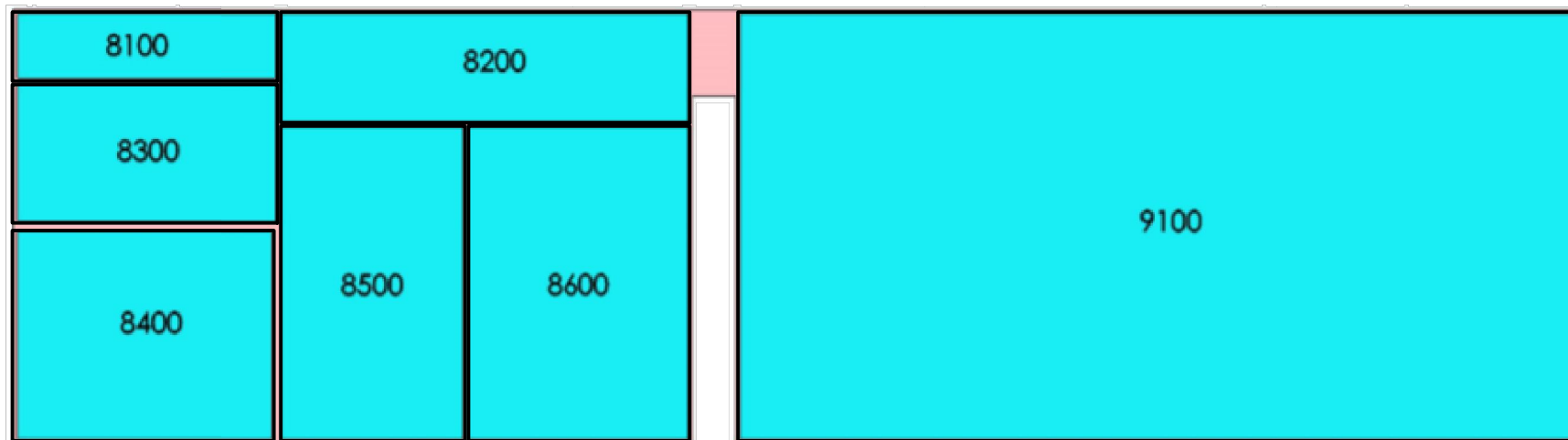
WEST SHOP

EAST SHOP



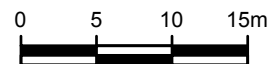
OFFICE AND SHIPPING BUILDING

MATERIAL STORAGE BUILDING



OPERATIONAL FLOOR PLAN AREAS	
DEPARTMENT	DEPT. ID. No.
Machining	1100
Tumbler / Kiln	1200
Maintenance	2100
Welding Area 2	2200
Induction Hardening	3100
Cylinder Bars / Drill / Punch	3200
Outdoor Storage / Production Shelter	3300
Dip Paint	4200
Beet Rims / Notching	4300
Slats / Recappers	4400
Production Offices	5100
Prod. Loading Dock	5200
Laser Parts Storage	5300
Welding Area 1	6100
Break & Shear	6200
Robot Area	6300
Chaffer Production	7100
Louver Prod. / Drilling	7200
Bar cutting / Saw	7300
Shipping Loading Dock	8100
Finished Goods Receiving	8200
Packaging / Kitting	8300
Administration Offices	8400
Packaging / Assembly	8500
Parts Storage	8600
Raw Material Storage	9100

Source: Supplemental Phase II ESA Site Plan



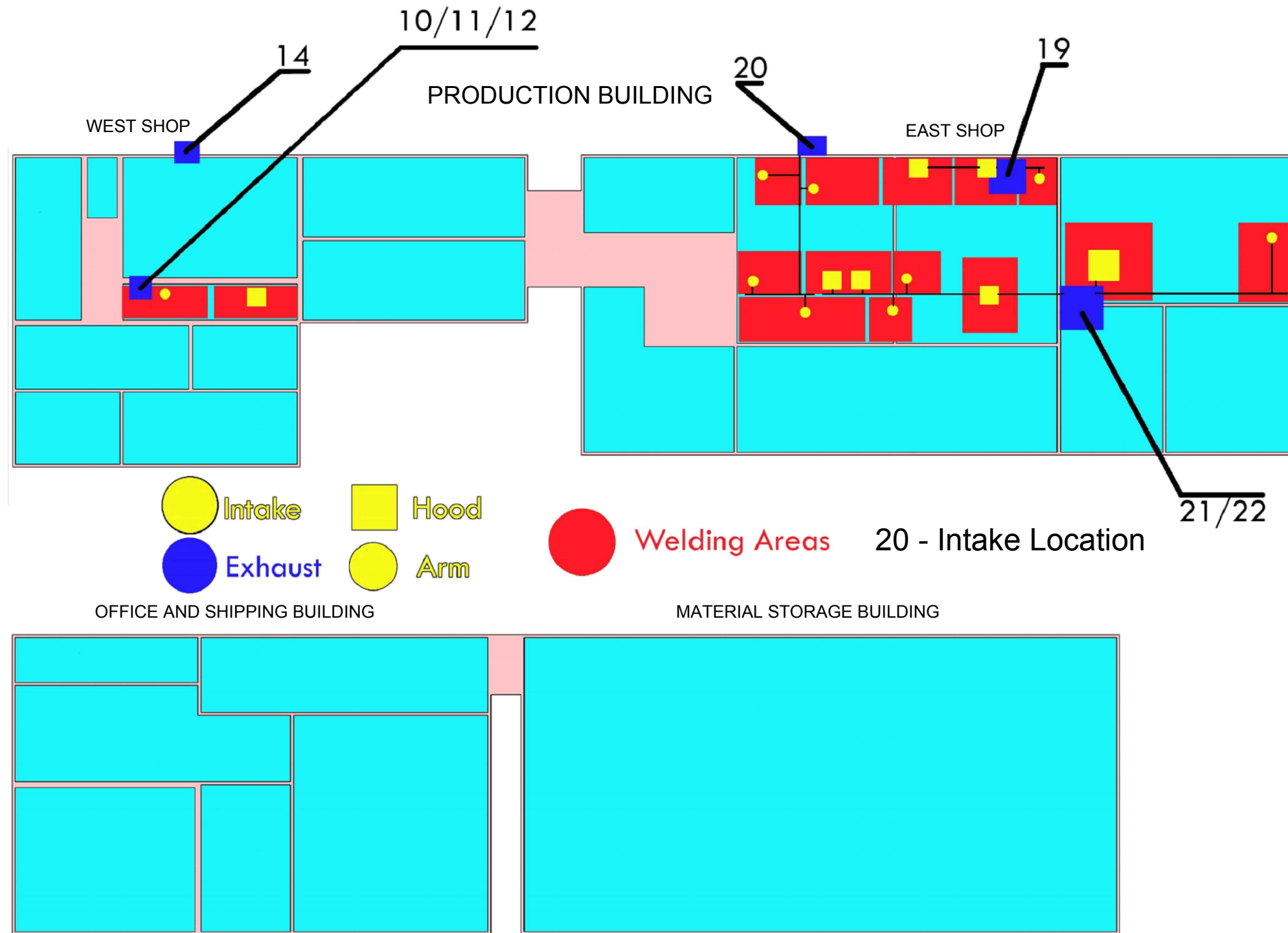
JOHN DEERE CANADA ULC
432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

11157020-98

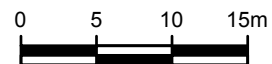
Mar 21, 2019

OPERATIONAL FLOOR PLAN

FIGURE 4



Source: Supplemental Phase II ESA Site Plan



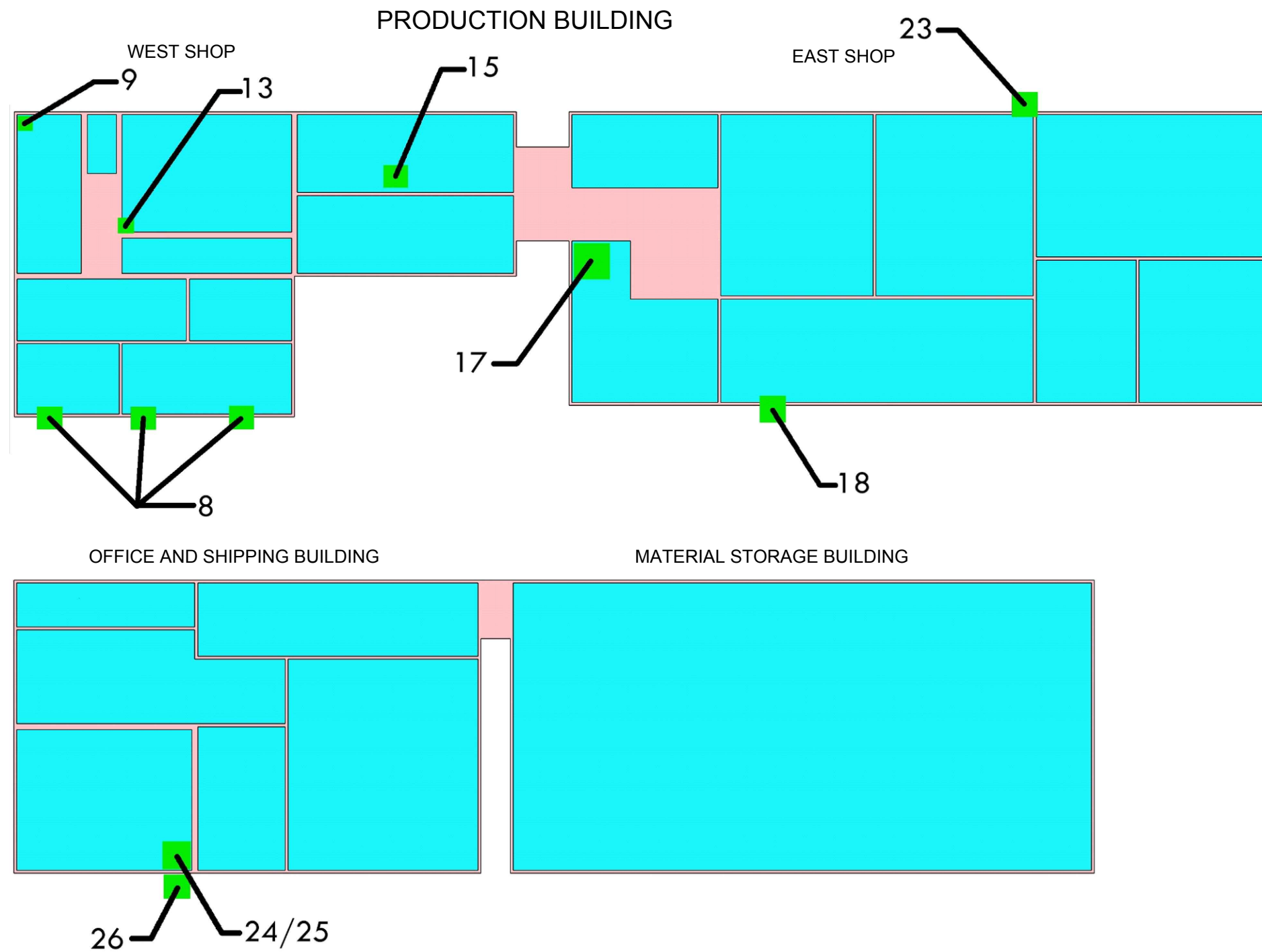
JOHN DEERE CANADA ULC
432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

WELD INTAKE AND EXHAUST LOCATIONS

11157020-98

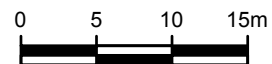
Mar 22, 2019

FIGURE 5a



17 - Intake Location

Source: Supplemental Phase II ESA Site Plan



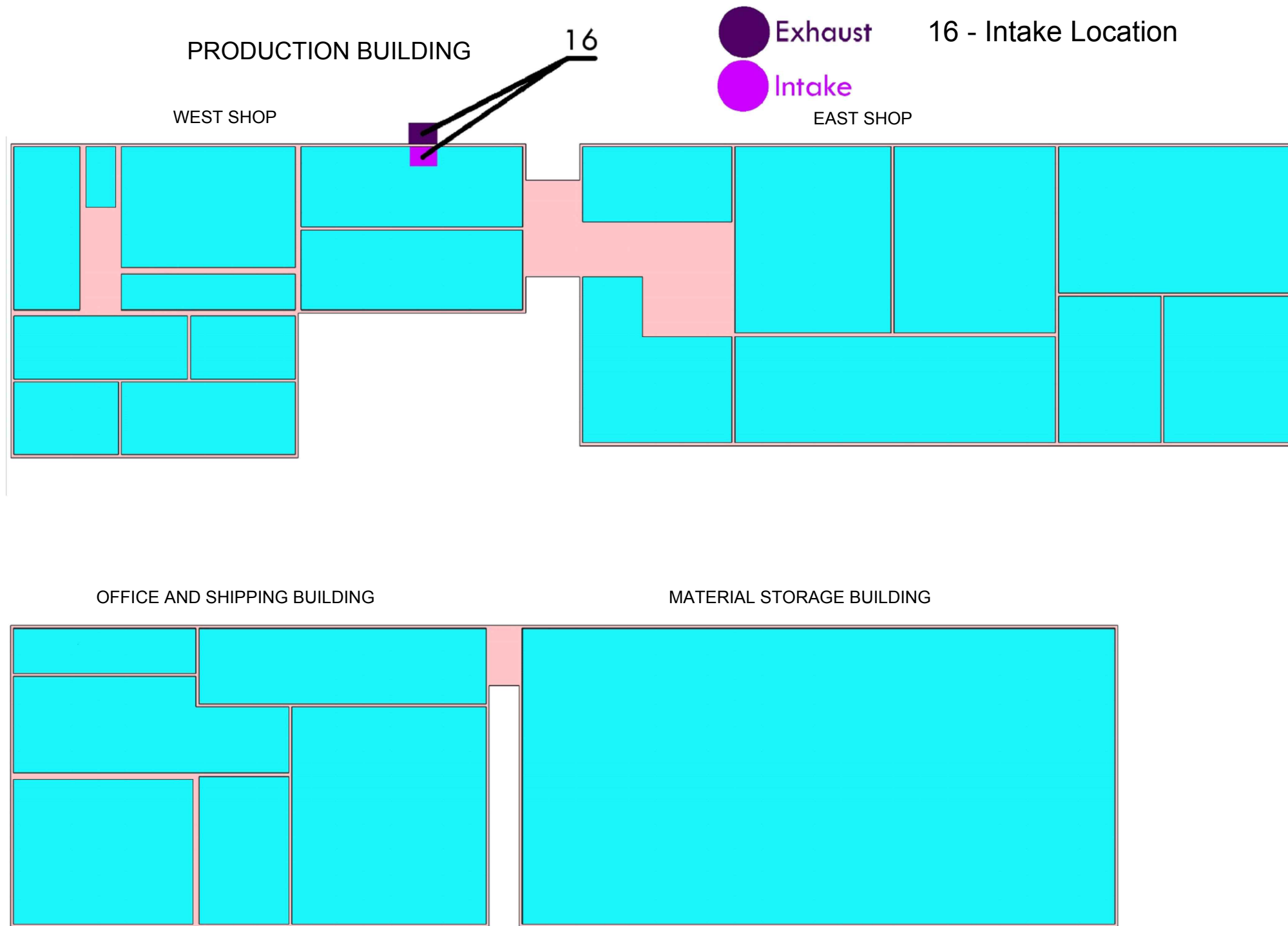
JOHN DEERE CANADA ULC
 432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
 DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

11157020-98

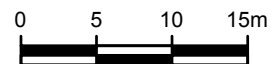
Mar 22, 2019

NATURAL GAS EXHAUST LOCATIONS

FIGURE 5b



Source: Supplemental Phase II ESA Site Plan



JOHN DEERE CANADA ULC
 432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
 DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

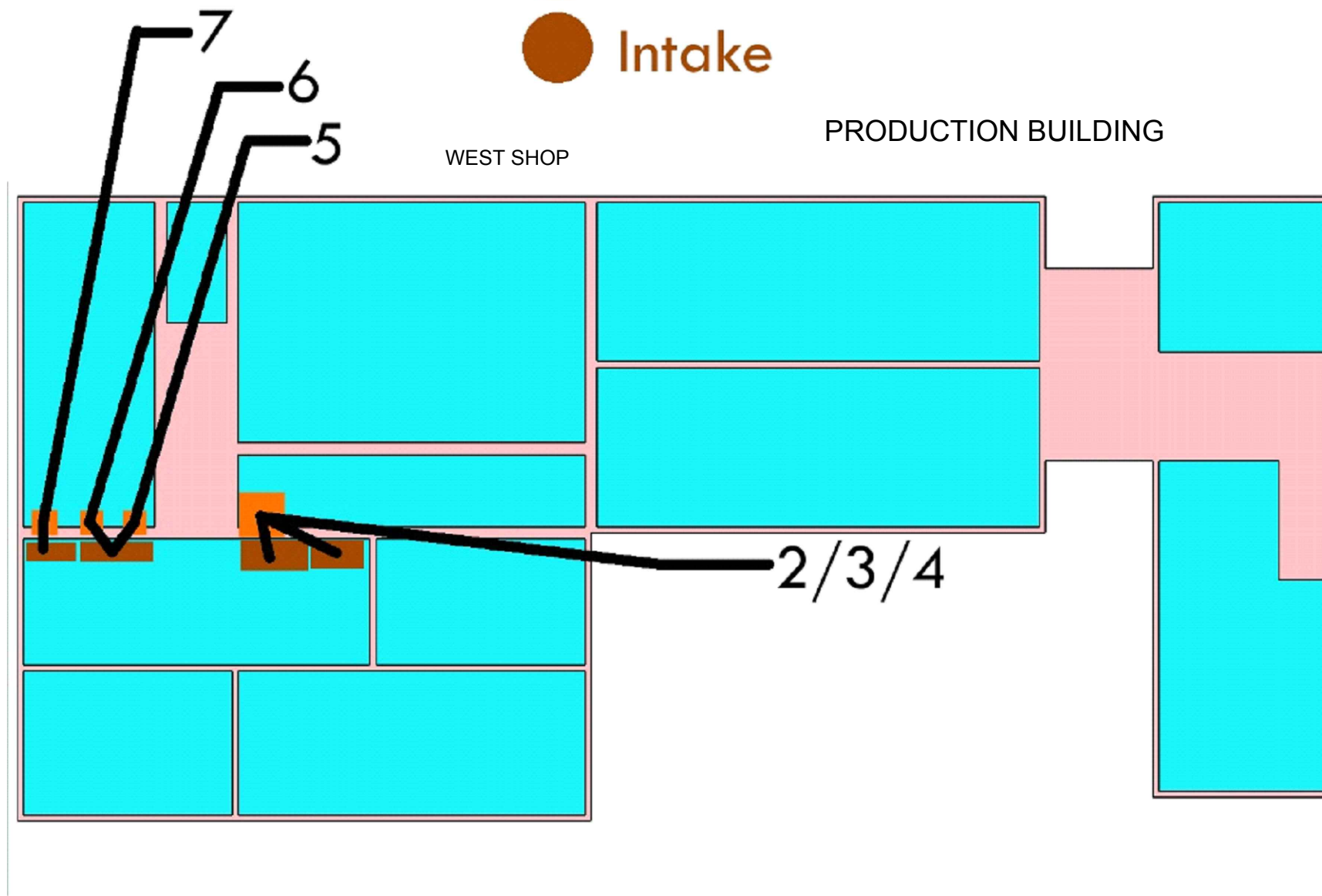
11157020-98

Mar 22, 2019

INDUCTION HARDENER HOOD AND EXHAUST LOCATIONS

FIGURE 5c

● Exhaust 5 - Intake Location
● Intake



Source: Supplemental Phase II ESA Site Plan



JOHN DEERE CANADA ULC
432 RAILWAY STREET SOUTH, ALTONA, MANITOBA
DEVELOPMENT ENVIRONMENTAL ASSESSMENT REPORT

11157020-98

Mar 22, 2019

PAINT INTAKE AND EXHAUST LOCATIONS

FIGURE 5d

Appendices

Appendix A

Land Title

STATUS OF TITLE

Title Number **1867772/4**
Title Status **Accepted**
Client File **March 14**

The Property Registry

A Service Provider for the Province of Manitoba



1. REGISTERED OWNERS, TENANCY AND LAND DESCRIPTION

LWL EQUITIES CORP.

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

PARCEL I:

LOT 13 PLAN 509 MLTO (W DIV)
IN SE 1/4 5-2-1 WPM
EXCEPTING - THE N 1/2

PARCEL II:

LOT 22 PLAN 509 MLTO (W DIV)
IN SE 1/4 5-2-1 WPM
EXCEPTING -
FIRSTLY - THE ELY 384 FEET OTHER THAN THE SLY 66 FEET
SECONDLY - ALL THAT PORTION OF THE SLY 66 FEET WHICH LIES TO THE EAST
OF A LINE DRAWN WEST OF, PARALLEL WITH AND PERP DISTANT 50 FEET FROM
THE WESTERN LIMIT OF PUBLIC ROAD SHOWN COLOURED PINK ON PLAN 545 MLTO

The land in this title is, unless the contrary is expressly declared, deemed to be subject to the reservations and restrictions set out in section 58 of *The Real Property Act*.

2. ACTIVE INSTRUMENTS

Instrument Type:	Mortgage
Registration Number:	1097296/4
Instrument Status:	Accepted
Registration Date:	2006-03-20
From/By:	LWL EQUITIES CORP.
To:	LLOYD WESLEY INC., ET AL
Amount:	\$5,000,000.00
Notes:	No notes
Description:	No description

Instrument Type: **Caveat**
Registration Number: **1167921/4**
Instrument Status: **Accepted**

Registration Date: 2012-02-16
From/By: RURAL MUNICIPALITY OF RHINELAND
To:

Amount:
Notes: ALL
Description: EASEMENT AGREEMENT DATED 2011/10/20

Instrument Type: **Caveat**
Registration Number: **1167942/4**
Instrument Status: **Accepted**

Registration Date: 2012-02-16
From/By: RURAL MUNICIPALITY OF RHINELAND
To:

Amount:
Notes: PART (PARCEL I)
Description: LOW PRESSURE SEWER CONNECTION AGMT DATED 2011/09/09

3. ADDRESSES FOR SERVICE

LWL EQUITIES CORP.
BOX 820
ALTONA MB
ROG 0B0

4. TITLE NOTES

No title notes

5. LAND TITLES DISTRICT

Morden

6. DUPLICATE TITLE INFORMATION

Duplicate not produced

7. FROM TITLE NUMBERS

1839213/4 All

8. REAL PROPERTY APPLICATION / CROWN GRANT NUMBERS

No real property application or grant information

9. ORIGINATING INSTRUMENTS

Instrument Type: **Transfer Of Land**
Registration Number: **1053492/4**

Registration Date: 2002-04-19
From/By: ESTATE OF JAKE LOEWEN
To: LWL EQUITIES CORP.
Consideration: \$20,000.00

10. LAND INDEX

Lot 13 Plan 509
EXC N 1/2 (IN SE 5-2-1W)

Lot 22 Plan 509
EXC PARTS (IN SE 5-2-1W)

CERTIFIED TRUE EXTRACT PRODUCED FROM THE LAND TITLES DATA STORAGE
SYSTEM OF TITLE NUMBER 1867772/4

Appendix B
Environmental Risk
Information Services Report

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



DATABASE REPORT

Project Property: *Proposal for Class Two Development
License Application (Proposal)
432 Railway St S
Rhineland MB R0G0B3*

Project No:

Report Type: *Standard Express Report*

Order No: *20180309164*

Requested by: *GHD Ltd.*

Date Completed: *March 9, 2018*

**Environmental Risk
Information Services**
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

www.erisinfo.com

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Executive Summary

Property Information:

Project Property: *Proposal for Class Two Development License Application (Proposal)
432 Railway St S Rhineland MB R0G0B3*

Project No:

Coordinates:

Latitude: *49.092651*
Longitude: *-97.558556*
UTM Northing: *5,438,755.92*
UTM Easting: *605,233.58*
UTM Zone: *UTM Zone 14U*

Elevation: *812 FT
247.39 M*

Order Information:

Order No: *20180309164*
Date Requested: *March 9, 2018*
Requested by: *GHD Ltd.*
Report Type: *Standard Express Report*

Historical/Products:

Aerial Photographs *National Collection - Digital (PDF)*
Insurance Products *Fire Insurance Maps/Inspection Reports/Site Specific Plans*
Land Title Search *Current Title Search*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Within 0.25 km	Total
AUWR	<i>Automobile Wrecking & Supplies</i>	Y	0	0	0
CA	<i>Certificates of Approval</i>	Y	0	0	0
CHEM	<i>Chemical Register</i>	Y	0	0	0
CNG	<i>Compressed Natural Gas Stations</i>	Y	0	0	0
CONV	<i>Enforcement Actions</i>	Y	0	0	0
CS	<i>Contaminated/Impacted Sites</i>	Y	0	0	0
DRL	<i>Drill Holes</i>	Y	0	0	0
EEM	<i>Environmental Effects Monitoring</i>	Y	0	0	0
EHS	<i>ERIS Historical Searches</i>	Y	0	1	1
EIIS	<i>Environmental Issues Inventory System</i>	Y	0	0	0
FCON	<i>Federal Convictions</i>	Y	0	0	0
FCS	<i>Contaminated Sites on Federal Land</i>	Y	0	0	0
FST	<i>Fuel Storage Tanks</i>	Y	0	0	0
FUEL	<i>Bulk Fuel Distributors</i>	Y	0	0	0
GEN	<i>Waste Generators Summary</i>	Y	3	0	3
GHG	<i>Greenhouse Gas Emissions from Large Facilities</i>	Y	0	0	0
IAFT	<i>Indian & Northern Affairs Fuel Tanks</i>	Y	0	0	0
MAST	<i>Manure Storage Facilities</i>	Y	0	0	0
MINE	<i>Canadian Mine Locations</i>	Y	0	0	0
MNR	<i>Mineral Occurrences</i>	Y	0	0	0
MOGW	<i>Manitoba Oil and Gas Wells</i>	Y	0	0	0
NATE	<i>National Analysis of Trends in Emergencies System (NATES)</i>	Y	0	0	0
NDFT	<i>National Defense & Canadian Forces Fuel Tanks</i>	Y	0	0	0
NDSP	<i>National Defense & Canadian Forces Spills</i>	Y	0	0	0
NDWD	<i>National Defence & Canadian Forces Waste Disposal Sites</i>	Y	0	0	0
NEBI	<i>National Energy Board Pipeline Incidents</i>	Y	0	0	0
NEBW	<i>National Energy Board Wells</i>	Y	0	0	0
NEES	<i>National Environmental Emergencies System (NEES)</i>	Y	0	0	0
NPCB	<i>National PCB Inventory</i>	Y	0	0	0
NPRI	<i>National Pollutant Release Inventory</i>	Y	0	0	0
OGW	<i>Oil and Gas Wells</i>	Y	0	0	0
PAP	<i>Canadian Pulp and Paper</i>	Y	0	0	0
PCB	<i>Inventory of PCB Storage Sites</i>	Y	0	0	0
PCFT	<i>Parks Canada Fuel Storage Tanks</i>	Y	0	0	0
PITS	<i>Manitoba Pits and Quarries</i>	Y	0	0	0
REC	<i>Waste Receivers Summary</i>	Y	0	0	0

<i>Database</i>	<i>Name</i>	<i>Searched</i>	<i>Project Property</i>	<i>Within 0.25 km</i>	<i>Total</i>
RST	<i>Retail Fuel Storage Tanks</i>	Y	0	0	0
SCT	<i>Scott's Manufacturing Directory</i>	Y	2	0	2
SPL	<i>Manitoba Spills</i>	Y	0	0	0
TCFT	<i>Transport Canada Fuel Storage Tanks</i>	Y	0	0	0
WDS	<i>Waste Disposal Site Inventory</i>	Y	0	0	0
WWIS	<i>Water Well Inventory</i>	Y	0	0	0
			<hr/>		
Total:			5	1	6

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev diff (m)</i>	<i>Page Number</i>
2	GEN	LOEWEN MANUFACTURING COMPANY LTD	ALTONA MB	NNW/83.5	0.00	12
2	GEN	LOEWEN MANUFACTURING COMPANY	432 RAILWAY ST S Altona MB	NNW/83.5	0.00	12
2	GEN	A & I PRODUCTS	432 RAILWAY ST S Altona MB	NNW/83.5	0.00	12
2	SCT	Loewen Manufacturing Company Ltd.	432 Railway St S Altona MB R0G 0B0	NNW/83.5	0.00	12
2	SCT	A & I Products	432 Railway St S Altona MB R0G 0B0	NNW/83.5	0.00	12

Executive Summary: Site Report Summary - Surrounding Properties

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev Diff (m)</i>	<i>Page Number</i>
1	EHS		432 Railway Street Altona MB	NW/81.4	0.00	13

Executive Summary: Summary By Data Source

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Aug 2016 has found that there are 1 EHS site(s) within approximately 0.25 kilometers of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Map Key</u>
	432 Railway Street Altona MB	NW	81.44	<u>1</u>

GEN - Waste Generators Summary

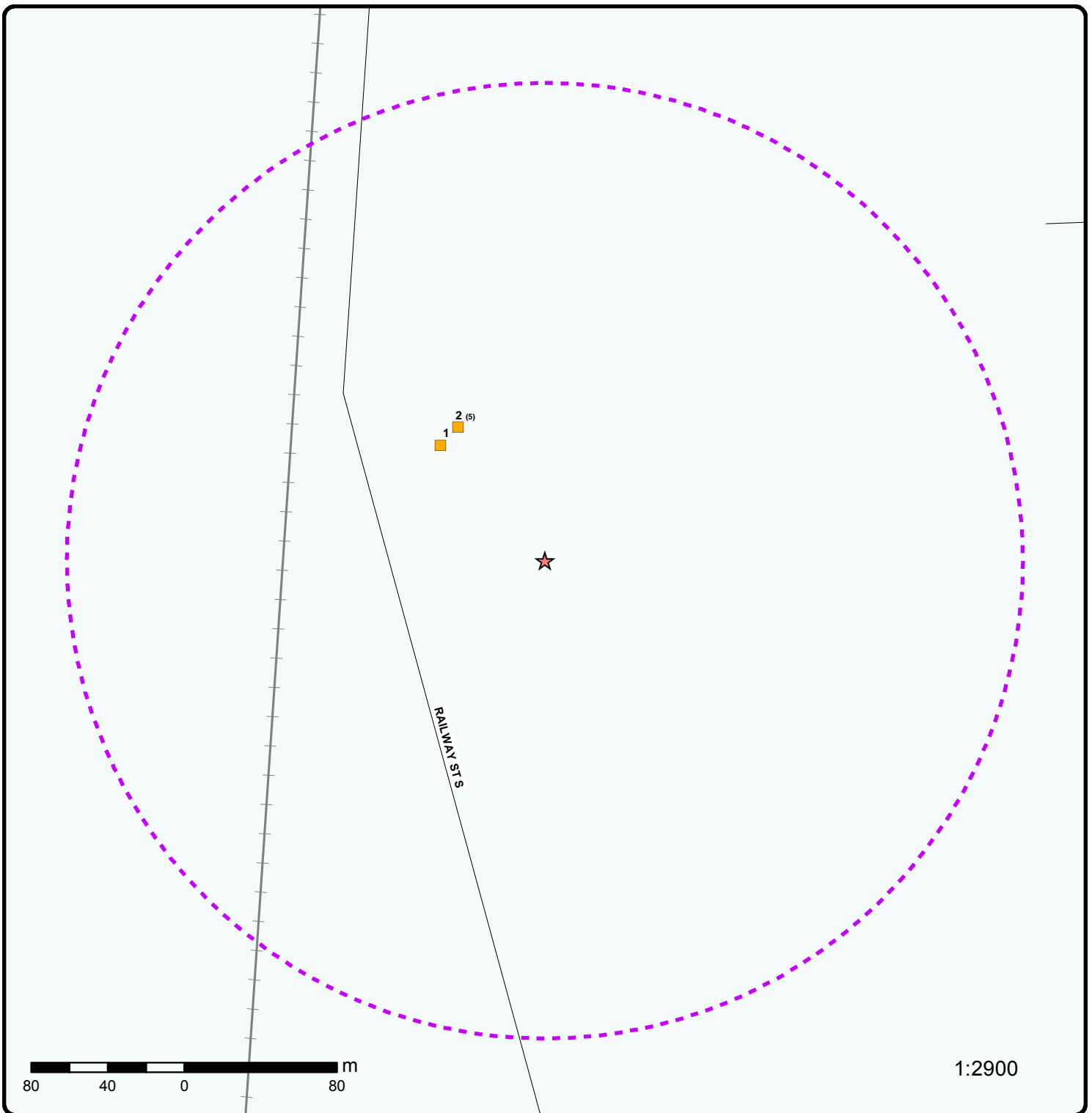
A search of the GEN database, dated 1998-Jun 2017 has found that there are 3 GEN site(s) within approximately 0.25 kilometers of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Map Key</u>
A & I PRODUCTS	432 RAILWAY ST S Altona MB	NNW	83.50	<u>2</u>
LOEWEN MANUFACTURING COMPANY LTD	ALTONA MB	NNW	83.50	<u>2</u>
LOEWEN MANUFACTURING COMPANY	432 RAILWAY ST S Altona MB	NNW	83.50	<u>2</u>

SCT - Scott's Manufacturing Directory

A search of the SCT database, dated 1992-Mar 2011* has found that there are 2 SCT site(s) within approximately 0.25 kilometers of the project property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction</u>	<u>Distance (m)</u>	<u>Map Key</u>
A & I Products	432 Railway St S Altona MB R0G 0B0	NNW	83.50	<u>2</u>
Loewen Manufacturing Company Ltd.	432 Railway St S Altona MB R0G 0B0	NNW	83.50	<u>2</u>



Map : 0.25 Kilometer Radius

Order No: 20180309164

Address: 432 Railway St S, Rhineland, MB R0G0B3 CA



Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail		Other Recreation Area
	Proposed Road		
	Ferry Route/Ice Road		



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Aerial

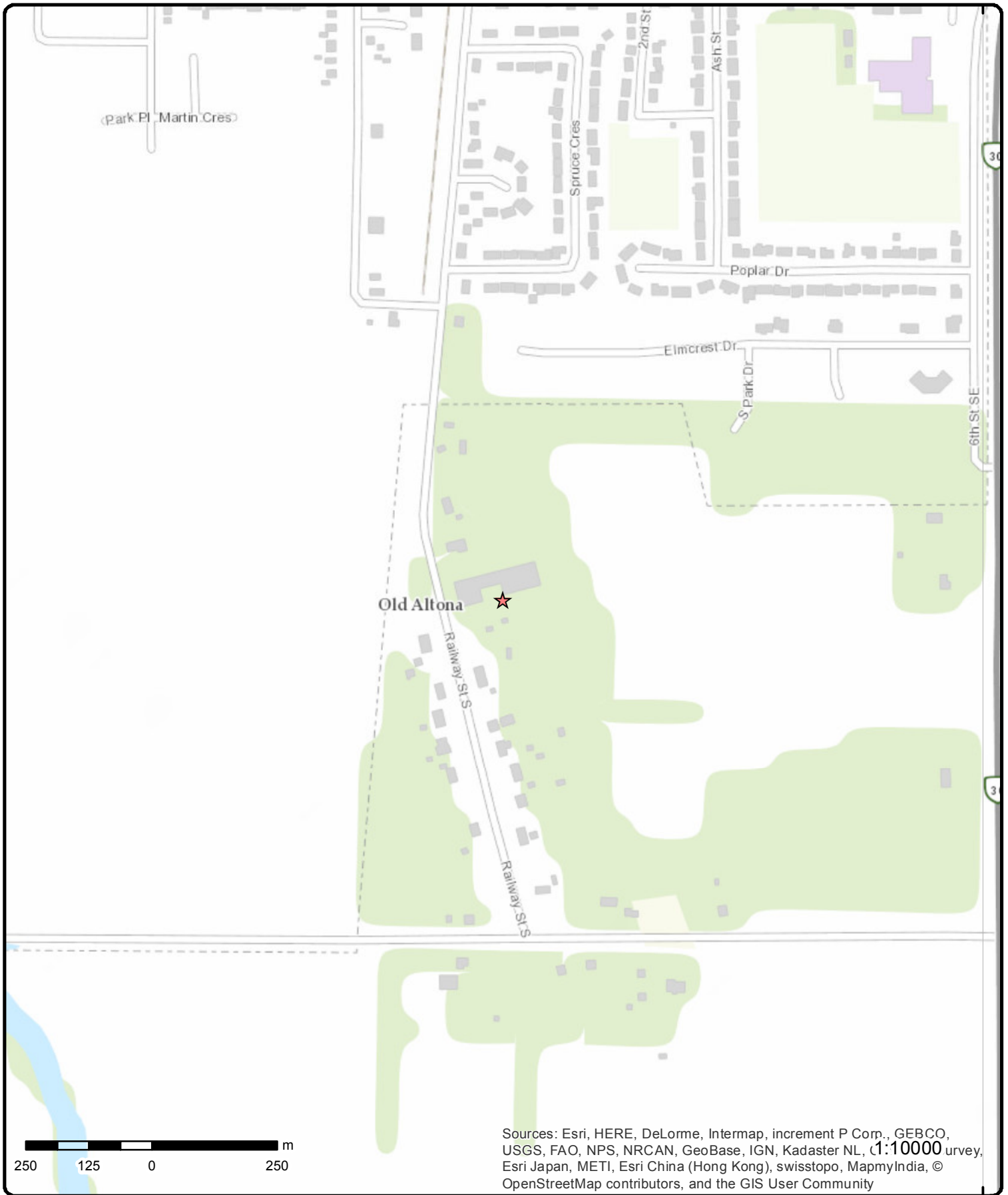
Address: 432 Railway St S, Rhineland, MB R0G0B3 CA

Source: ESRI World Imagery

Order No: 20180309164



© ERIS Information Limited Partnership



Topographic Map

Address: 432 Railway St S, Rhineland, MB R0G0B3 CA

Source: ESRI World Topographic Map

Order No: 20180309164



© ERIS Information Limited Partnership

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
2	1 of 5	NNW/83.5	247.4 / 0.00	LOEWEN MANUFACTURING COMPANY LTD ALTONA MB	GEN
Registration No:		MBG002014			
SIC:					
DLS:					
2	2 of 5	NNW/83.5	247.4 / 0.00	LOEWEN MANUFACTURING COMPANY 432 RAILWAY ST S Altona MB	GEN
Registration No:		MBG02014			
SIC:					
DLS:					
2	3 of 5	NNW/83.5	247.4 / 0.00	A & I PRODUCTS 432 RAILWAY ST S Altona MB	GEN
Registration No:		MBG02014			
SIC:					
DLS:					
2	4 of 5	NNW/83.5	247.4 / 0.00	Loewen Manufacturing Company Ltd. 432 Railway St S Altona MB R0G 0B0	SCT
Established:		1959			
Plant Size (ft²):		66000			
Employment:		60			
--Details--					
Description:		Agricultural Implement Manufacturing			
SIC/NAICS Code:		333110			
2	5 of 5	NNW/83.5	247.4 / 0.00	A & I Products 432 Railway St S Altona MB R0G 0B0	SCT
Established:		01-DEC-59			
Plant Size (ft²):		100000			
Employment:					
--Details--					
Description:		Coating, Engraving, Heat Treating and Allied Activities			
SIC/NAICS Code:		332810			

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction/ Distance (m)</i>	<i>Elev/Diff (m)</i>	<i>Site</i>	<i>DB</i>
Description:		Agricultural Implement Manufacturing			
SIC/NAICS Code:		333110			
Description:		Other Engine and Power Transmission Equipment Manufacturing			
SIC/NAICS Code:		333619			
Description:		Agricultural Implement Manufacturing			
SIC/NAICS Code:		333110			
<u>1</u>	1 of 1	NW/81.4	247.4 / 0.00	432 Railway Street Altona MB	EHS

Postal Code:
City:
Address2:
Address1:
Provstate:
Order No.: 20100921034
Addit. Info Ordered:: Fire Insur. Maps and/or Site Plans; Aerial Photos
Report Date: 9/27/2010
Report Type: Standard Report
Search Radius (km): 0.25

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
----	------------------------	---------	------	--------

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. **Note:** Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Automobile Wrecking & Supplies:

Private

[AUWR](#)

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Jan 31, 2018

Certificates of Approval:

Provincial

[CA](#)

This database contains approvals issued since July 1988 within the following categories: Approvals for Air or Effluent and Orders, Permits and/or Regulated Sites designations for Air, Effluent, Refuse or Storage. The information available within this database pertains to client information, general location, class type, operation type, license # and the issue date of the CA. Please note that no specific site address information is available.

Government Publication Date: 1988-Jun 2013*

Chemical Register:

Private

[CHEM](#)

The Manitoba Industry, Trade and Tourism department maintains a chemical register of all known 'active' manufacturers of chemicals, fertilizers and pesticides within the province. Inactive chemical manufacturers are not required to remain in the database. Information available within this register pertains to company name, location and the 'product line'. Information from a private source regarding the locations of chemical manufacturers and distributors is also included in this database.

Government Publication Date: 1999-Jan 31, 2018

Compressed Natural Gas Stations:

Private

[CNG](#)

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 31, 2012

Enforcement Actions:

Provincial

[CONV](#)

This database summarizes enforcement activities (Convictions, Warnings, Director's Order's, EO Order's, MOH Order's, Offence Notice's, and Permit Suspensions) where companies/individual have been found guilty of environmental offenses under Manitoba's Environmental Protection Legislation. Please note that enforcement actions resulting from activities regulated under the Livestock Manure & Mortalities Mgmt Regulation MR 42/98 are also included.

Government Publication Date: Apr 1994-Mar 2008

Contaminated/Impacted Sites:

Provincial

[CS](#)

List of sites registered under the Contaminated/Impacted Sites Program, made available by Manitoba Sustainable Development, Environmental Programs and Strategies branch. Includes sites that are on the Designated Impacted and Designated Contaminated Sites lists, as well as sites where impacts do not pose a concern, remediation has been completed, or further action is necessary.

Government Publication Date: Up to May 2017

Drill Holes:

Provincial

[DRL](#)

The "Open File Drill Holes" database contains information on more than 10,000 drill holes in the province of Manitoba. The database provides information in regard to drill hole location (place, latitude and longitude), depth and overburden of hole, exploration company and assessment report year.

Government Publication Date: Oct 31, 2016

Environmental Effects Monitoring:

Federal

[EEM](#)

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches:

Private

EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Aug 2016

Environmental Issues Inventory System:

Federal

EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Federal Convictions:

Federal

FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land:

Federal

FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: Jun 2000-Dec 2017

Fuel Storage Tanks:

Provincial

FST

The Petroleum Storage Tank database, which is maintained by Manitoba's Petroleum Storage Program, contains information in regard to company name, location, status, outlet type (retail, used oil, bulk/used'), number of tanks, tank capacity and tank status. This database will not be updated as this information is no longer collected in this format. For current information regarding bulk fuel distributors, please see the FUEL database.

Government Publication Date: 1905-Feb 2003*

Bulk Fuel Distributors:

Provincial

FUEL

The Manitoba Petroleum Storage Program maintains an inventory of Bulk Fuel Distributors. This inventory contains valid operating permit numbers within the Province of Manitoba. Fields such as name, location, expiry date, type of facility and permit Number are included.

Government Publication Date: 2006-Dec 31, 2017

Waste Generators Summary:

Provincial

GEN

Within Manitoba, a waste generator is defined as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled or stored at the site. This database contains the licensing/registration number (MB1 #), company name and address of registered generators. At present, access to the type of hazardous waste generated and the form of treatment used in the handling of the waste is only available by directly calling Manitoba's Hazardous Waste Program.

Government Publication Date: 1998-Jun 2017

Greenhouse Gas Emissions from Large Facilities:

Federal

GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2015

Indian & Northern Affairs Fuel Tanks:

Federal

IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

Manure Storage Facilities:

Provincial **MAST**

Under the Livestock Manure and Mortalities Management Regulation (MR 42/98), permits are issued for the construction, modification or expansion of manure storage facilities. Once issued, the Environmental Livestock Program is responsible for the enforcement of regulations on the management of manure and mortalities. Please note that the MAST database only provides information on permit number, operation name, RM and permit issue date. All other information must be obtained from MB Conservation.

Government Publication Date: Jul 1994-May 2012

Canadian Mine Locations:

Private **MINE**

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences:

Provincial **MNR**

For over 25 years, Manitoba has been compiling Mineral Inventory Cards on mineral deposits in the province. This database was obtained from Manitoba Industry, Trade and Mines, and contains information on over 650 mineral occurrences in the province. Data is provided on the Mineral Inventory File No., Mineral Deposit Name, Product, Associated Minerals or Products of Value, NTS area, Name of Property Owner or Operator and Address, location, and geographical coordinates.

Government Publication Date: 1961-Oct 2016

Manitoba Oil and Gas Wells:

Provincial **MOGW**

The Manitoba Oil and Gas Wells database was collected through the assistance of The Land Systems Company. Information is provided regarding license number and location for over 4,800 wells. Please note that this database will not be updated, information on wells drilled after May 2002 can be found in the Oil and Gas Wells (OGW) database under the 'Private Source Database' section.

Government Publication Date: 1951-May 2002*

National Analysis of Trends in Emergencies System (NATES):

Federal **NATE**

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

National Defense & Canadian Forces Fuel Tanks:

Federal **NDFT**

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills:

Federal **NDSP**

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites:

Federal **NDWD**

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents:

Federal **NEBI**

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008-Dec 31, 2017

National Energy Board Wells:

Federal

[NEBW](#)

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES):

Federal

[NEES](#)

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory:

Federal

[NPCB](#)

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory:

Federal

[NPRI](#)

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017

Oil and Gas Wells:

Private

[OGW](#)

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-December 31, 2017

Canadian Pulp and Paper:

Private

[PAP](#)

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

Inventory of PCB Storage Sites:

Provincial

[PCB](#)

Manitoba's Hazardous Waste Program maintains a listing of all "active" PCB storage facilities. Inactive PCB storage equipment and/or disposal sites are not required to remain as part of the PCB inventory database for the province. Please note that some of the sites have no wastes in storage at present, but are retained should they be required for future acceptance of PCB equipment as it comes out of service. The records within this database only provide information on facility name and location. Information pertaining to the inventory of stored wastes and waste quantities at a designated site is only available by directly contacting the Hazardous Waste Program. Please note that this database will not be updated, information after 1999 can be found in the National PCB Inventory (NPCB) database.

Government Publication Date: 1998-1999*

Parks Canada Fuel Storage Tanks:

Federal

[PCFT](#)

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Manitoba Pits and Quarries:

Provincial PITS

The Manitoba Pits and Quarries database is comprised of 3 different types of permits. 1. Quarry Lease and Exploration Permits, which have a ten year term with exclusive rights for crown minerals. Quarry Exploration permits have a three year term with exclusive rights. 2. Private Pits and Quarry Permits require annual registration of private aggregate operations in the province and 3. Casual Permits which are for annual permits of Crown materials.

Government Publication Date: 1994-Oct 2016

Waste Receivers Summary:

Provincial REC

Disposal of regulated waste is maintained through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. A waste receiving location is any site or facility to which waste is transferred through a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by company name and address.

Government Publication Date: 1998-Jul 2017

Retail Fuel Storage Tanks:

Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Jan 31, 2018

Scott's Manufacturing Directory:

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Manitoba Spills:

Provincial SPL

The Manitoba Conservation Environmental Management System (EMS) records spills from across the province. Information from this database includes incident type, substance type, reason, location of spill, contaminate info and responsible party.

Government Publication Date: Apr 2009-Aug 2017

Transport Canada Fuel Storage Tanks:

Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Aug 2017

Waste Disposal Site Inventory:

Provincial WDS

Manitoba Conservation retains a separate inventory of all known active and inactive regulated waste disposal grounds and waste transfer facilities for each of the five regions in the province. Registered companies may hold a permit or certificate for release of the following waste types: Effluent, Refuse, Air and Special Waste Storage.

Government Publication Date: 1998*

Water Well Inventory:

Provincial WWIS

The GW Drill database compiled by the Manitoba Water Stewardship and Groundwater Management Section provides information on water wells across the province. Information such as location, owner, driller, well name, well use, water use and date completed are reported on. Most wells within the inventory are georeferenced by DLS coordinates.

Government Publication Date: 1880-May 2015

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix C

Manitoba Conservation

Data Centre Correspondence

From: Friesen, Chris (SD)
To: [Sarah Weston](#)
Subject: Environmental Assessment Report
Date: Thursday, May 17, 2018 10:55:12 AM

Sarah

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's rare species database and found no occurrences at this time for your area of interest.

The information provided in this letter is based on existing data known to the Manitoba Conservation Data Centre at the time of the request. These data are dependent on the research and observations of CDC staff and others who have shared their data, and reflect our current state of knowledge. An absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present; in many areas, comprehensive surveys have never been completed. Therefore, this information should be regarded neither as a final statement on the occurrence of any species of concern, nor as a substitute for on-site surveys for species as part of environmental assessments.

Because the Manitoba CDC's Biotics database is continually updated and because information requests are evaluated by type of action, any given response is only appropriate for its respective request. Please contact the Manitoba CDC for an update on this natural heritage information if more than six months pass before it is utilized.

Third party requests for products wholly or partially derived from Biotics must be approved by the Manitoba CDC before information is released. Once approved, the primary user will identify the Manitoba CDC as data contributors on any map or publication using Biotics data, as follows as: Data developed by the Manitoba Conservation Data Centre; Wildlife & Fisheries Branch, Manitoba Sustainable Development.

This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

We would be interested in receiving a copy of the results of any field surveys that you may undertake, to update our database with the most current knowledge of the area.

If you have any questions or require further information please contact me directly at (204) 945-7747.

Chris Friesen
Coordinator
Manitoba Conservation Data Centre
204-945-7747
chris.friesen@gov.mb.ca
<http://www.manitoba.ca/sd/cdc/>

-----Original Message-----

From:
Sent: May-10-18 11:44 AM
To: Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>
Subject: Spam: WWW Form Submission

Below is the result of your feedback form. It was submitted by WWW Information Request () on Thursday, May 10, 2018 at 11:44:04

DocumentID: Manitoba_Conservation

Project Title: Environmental Assessment Report

Date Needed: 2018/05/24

Name: Sarah Weston

Company/Organization: GHD

Address: 45 Akerley Blvd

City: Dartmouth

Province/State: Nova Scotia

Phone: 902-440-3988

Email: sarah.weston@ghd.com

Project Description: I am completing an environmental assessment report and would like to confirm the presence/absence of endangered species in the Project Area.

Information Requested: Any information related to the presence or absence of endangered flora or fauna species, or ecologically sensitive areas, in the given project area.

Format Requested: Email

Location: 432 Railway St South, Altona, R0G 0B2

13-509

S 1/2

ORG SE-05-02-01-W

action: Submit

This e-mail has been scanned for viruses

Appendix D
Manitoba Historic Resources
Branch Correspondence

From: +WPG574 - HRB Archaeology (SCH)
To: [Sarah Weston](#)
Subject: RE: Heritage resources, archaeological, or historic sites
Date: Wednesday, May 30, 2018 1:28:06 PM
Attachments: [image001.png](#)

Good morning Sarah,

The Historic Resources Branch (HRB) has reviewed the location outlined below and has determined there are no known heritage resources in the immediate area of the location provided. Based on this, and other factors, the HRB has no concerns at this time with the property identified.

If you require anything further, please feel free to contact me.

Sincerely,
Holly Cote

Holly Cote
Municipal Heritage Consultant
Historic Resources Branch
Main Floor - 213 Notre Dame Avenue, Winnipeg, MB R3B 1N3
Phone (204) 945-7259; Fax (204) 948-2384
E-mail: Holly.Cote@gov.mb.ca



From: Sarah Weston [mailto:Sarah.Weston@ghd.com]
Sent: May-10-18 11:51 AM
To: +WPG574 - HRB (SCH) <hrb@gov.mb.ca>
Subject: Heritage resources, archaeological, or historic sites

Hello,

I would like to inquire about the presence of any heritage resources in the following location:

432 Railway Street South, Altona, R0G 0B2

13—509

S 1/2

ORG SE-05-02-01-W

I am completing an environmental assessment report and would like to confirm the presence or

absence of heritage resources, archaeological or historic sites in relation to the property identified above.

Thank-you,

Best regards,
Sarah

Sarah Weston, BSc, MREM
Environmental Planner

GHD

T: +1 902 334 1816 E: sarah.weston@ghd.com

45 Akerley Blvd. Dartmouth Nova Scotia Canada B3B 1J7 | www.ghd.com

[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

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This e-mail has been scanned for viruses

Appendix E

Process Water Laboratory Analytical Results

Your P.O. #: 73514547
Your Project #: 11157020

Attention: JENNIFER BALKWILL

GHD Limited
455 PHILLIP STREET
WATERLOO, ON
CANADA N2L 3X2

Your C.O.C. #: C#575031-01-01, C#575031-02-01, N016958

Report Date: 2019/02/08

Report #: R2683959

Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B905473

Received: 2019/01/23, 10:00

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Biochemical Oxygen Demand (1)	1	2019/01/24	2019/01/29	AB SOP-00017	SM 22 5210B m
BTEX/F1 in Water by HS GC/MS/FID (1)	2	N/A	2019/01/25	AB SOP-00039	CCME CWS/EPA 8260d m
F1-BTEX (1)	2	N/A	2019/01/26	AB SOP-00039	Auto Calc
Cadmium - low level CCME (Total) (1)	1	N/A	2019/01/29	AB WI-00065	Auto Calc
CCME Hydrocarbons (F2-F4 in water) (1, 3)	1	2019/01/24	2019/01/24	AB SOP-00037	CCME PHC-CWS m
Elements by ICP - Total (1)	1	2019/01/28	2019/01/29	AB SOP-00014 / AB SOP-00042	EPA 6010d R4 m
Elements by ICPMS - Total (1)	1	2019/01/25	2019/01/28	AB SOP-00014 / AB SOP-00043	EPA 6020b R2 m
pH @25°C (1, 4)	1	N/A	2019/01/24	AB SOP-00005	SM 23 4500-H+B m
Total Trihalomethanes Calculation (1)	1	N/A	2019/01/28	AB SOP-00056	Auto Calc
Total Trihalomethanes Calculation (1)	1	N/A	2019/01/31	AB SOP-00056	Auto Calc
Total Suspended Solids (NFR) (1)	1	2019/01/25	2019/01/25	AB SOP-00061	SM 23 2540 D m
VOCs in Water by HS GC/MS (Std List) (1)	1	N/A	2019/01/25	AB SOP-00056	EPA 5021a/8260d m
VOCs in Water by HS GC/MS (Std List) (1)	1	N/A	2019/01/30	AB SOP-00056	EPA 5021a/8260d m
Animal and Vegetable Oil & Grease (2)	1	N/A	2019/01/30	CAM SOP-00326	EPA 1664B m
Total Oil and Grease (2)	1	2019/01/30	2019/01/30	CAM SOP-00326	EPA 1664B m
Mineral/Synthetic O & G (TPH Heavy Oil) (2, 5)	1	2019/01/30	2019/01/30	CAM SOP-00326	EPA 1664A

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.

Your P.O. #: 73514547
Your Project #: 11157020

Attention: JENNIFER BALKWILL

GHD Limited
455 PHILLIP STREET
WATERLOO, ON
CANADA N2L 3X2

Your C.O.C. #: C#575031-01-01, C#575031-02-01, N016958

Report Date: 2019/02/08
Report #: R2683959
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B905473

Received: 2019/01/23, 10:00

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Calgary Environmental

(2) This test was performed by Maxxam Ontario (from Winnipeg)

(3) Silica gel clean up employed.

(4) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Maxxam endeavours to analyze samples as soon as possible after receipt.

(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Janelle Kochan, B.Sc., Project Manager

Email: JKochan@maxxam.ca

Phone# (204)772-7276 Ext:7062209

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

AT1 BTEX AND F1-F4 IN WATER (WATER)

Maxxam ID		VD0850		
Sampling Date		2019/01/22 13:30		
COC Number		N016958		
	UNITS	W:11157020:20190122:Q	RDL	QC Batch
Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/L	0.69	0.10	9301455
F3 (C16-C34 Hydrocarbons)	mg/L	8.8	0.10	9301455
F4 (C34-C50 Hydrocarbons)	mg/L	0.56	0.20	9301455
Volatiles				
Benzene	ug/L	<0.40	0.40	9303102
Toluene	ug/L	<0.40	0.40	9303102
Ethylbenzene	ug/L	<0.40	0.40	9303102
m & p-Xylene	ug/L	<0.80	0.80	9303102
o-Xylene	ug/L	<0.40	0.40	9303102
Xylenes (Total)	ug/L	<0.89	0.89	9301449
F1 (C6-C10) - BTEX	ug/L	<100	100	9301449
F1 (C6-C10)	ug/L	<100	100	9303102
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	92	N/A	9303102
4-Bromofluorobenzene (sur.)	%	135	N/A	9303102
D4-1,2-Dichloroethane (sur.)	%	90	N/A	9303102
O-TERPHENYL (sur.)	%	90	N/A	9301455
RDL = Reportable Detection Limit N/A = Not Applicable				

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

AT1 BTEX AND F1 WATER (WATER)

Maxxam ID		VD0851		
Sampling Date		2019/01/22 09:00		
COC Number		N016958		
	UNITS	W:11157020:20190122:TB	RDL	QC Batch
Volatiles				
Benzene	ug/L	<0.40	0.40	9303102
Toluene	ug/L	<0.40	0.40	9303102
Ethylbenzene	ug/L	<0.40	0.40	9303102
m & p-Xylene	ug/L	<0.80	0.80	9303102
o-Xylene	ug/L	<0.40	0.40	9303102
Xylenes (Total)	ug/L	<0.89	0.89	9301449
F1 (C6-C10) - BTEX	ug/L	<100	100	9301449
F1 (C6-C10)	ug/L	<100	100	9303102
Surrogate Recovery (%)				
1,4-Difluorobenzene (sur.)	%	91	N/A	9303102
4-Bromofluorobenzene (sur.)	%	136	N/A	9303102
D4-1,2-Dichloroethane (sur.)	%	92	N/A	9303102
RDL = Reportable Detection Limit N/A = Not Applicable				

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

REGULATED METALS (CCME/AT1) - TOTAL

Maxxam ID		VD0850		
Sampling Date		2019/01/22 13:30		
COC Number		N016958		
	UNITS	W:11157020:20190122:Q	RDL	QC Batch
Low Level Elements				
Total Cadmium (Cd)	ug/L	<0.020	0.020	9301450
Elements				
Total Aluminum (Al)	mg/L	0.0075	0.0030	9305289
Total Antimony (Sb)	mg/L	0.0010	0.00060	9305289
Total Arsenic (As)	mg/L	0.0014	0.00020	9305289
Total Barium (Ba)	mg/L	0.021	0.010	9305285
Total Beryllium (Be)	mg/L	<0.0010	0.0010	9305289
Total Boron (B)	mg/L	0.26	0.020	9305285
Total Calcium (Ca)	mg/L	68	0.30	9305285
Total Chromium (Cr)	mg/L	<0.0010	0.0010	9305289
Total Cobalt (Co)	mg/L	0.00036	0.00030	9305289
Total Copper (Cu)	mg/L	0.14	0.00020	9305289
Total Iron (Fe)	mg/L	0.91	0.060	9305285
Total Lead (Pb)	mg/L	0.00050	0.00020	9305289
Total Lithium (Li)	mg/L	0.073	0.020	9305285
Total Magnesium (Mg)	mg/L	32	0.20	9305285
Total Manganese (Mn)	mg/L	0.093	0.0040	9305285
Total Molybdenum (Mo)	mg/L	0.0058	0.00020	9305289
Total Nickel (Ni)	mg/L	0.0097	0.00050	9305289
Total Phosphorus (P)	mg/L	<0.10	0.10	9305285
Total Potassium (K)	mg/L	14	0.30	9305285
Total Selenium (Se)	mg/L	0.00054	0.00020	9305289
Total Silicon (Si)	mg/L	3.5	0.10	9305285
Total Silver (Ag)	mg/L	<0.00010	0.00010	9305289
Total Sodium (Na)	mg/L	110	0.50	9305285
Total Strontium (Sr)	mg/L	0.24	0.020	9305285
Total Sulphur (S)	mg/L	110	0.20	9305285
Total Thallium (Tl)	mg/L	<0.00020	0.00020	9305289
Total Tin (Sn)	mg/L	<0.0010	0.0010	9305289
Total Titanium (Ti)	mg/L	<0.0010	0.0010	9305289
Total Uranium (U)	mg/L	0.00022	0.00010	9305289
Total Vanadium (V)	mg/L	0.0012	0.0010	9305289
RDL = Reportable Detection Limit				

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

REGULATED METALS (CCME/AT1) - TOTAL

Maxxam ID		VD0850		
Sampling Date		2019/01/22 13:30		
COC Number		N016958		
	UNITS	W:11157020:20190122:Q	RDL	QC Batch
Total Zinc (Zn)	mg/L	0.039	0.0030	9305289
RDL = Reportable Detection Limit				

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		VD0850	VD0850		
Sampling Date		2019/01/22 13:30	2019/01/22 13:30		
COC Number		N016958	N016958		
	UNITS	W:11157020:20190122:Q	W:11157020:20190122:Q Lab-Dup	RDL	QC Batch
Demand Parameters					
Biochemical Oxygen Demand	mg/L	14	14	2.0	9302554
Misc. Inorganics					
pH	pH	7.91	N/A	N/A	9302144
Total Suspended Solids	mg/L	8.4	N/A	1.0	9303517
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		VD0850	VD0850		VD0851		
Sampling Date		2019/01/22 13:30	2019/01/22 13:30		2019/01/22 09:00		
COC Number		N016958	N016958		N016958		
	UNITS	W:11157020:20190122:Q	W:11157020:20190122:Q Lab-Dup	QC Batch	W:11157020:20190122:TB	RDL	QC Batch

Volatiles							
Total Trihalomethanes	ug/L	12	N/A	9301606	<1.3	1.3	9303432
Bromodichloromethane	ug/L	3.9	4.0	9303665	<0.50	0.50	9307894
Bromoform	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Bromomethane	ug/L	<2.0	<2.0	9303665	<2.0	2.0	9307894
Carbon tetrachloride	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Chlorobenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Chlorodibromomethane	ug/L	2.0	2.1	9303665	<1.0	1.0	9307894
Chloroethane	ug/L	<1.0	<1.0	9303665	<1.0	1.0	9307894
Chloroform	ug/L	5.7	5.7	9303665	<0.50	0.50	9307894
Chloromethane	ug/L	<2.0	<2.0	9303665	<2.0	2.0	9307894
1,2-dibromoethane	ug/L	<0.20	<0.20	9303665	<0.20	0.20	9307894
1,2-dichlorobenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,3-dichlorobenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,4-dichlorobenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,1-dichloroethane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,2-dichloroethane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,1-dichloroethene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
cis-1,2-dichloroethene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
trans-1,2-dichloroethene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Dichloromethane	ug/L	<2.0	<2.0	9303665	<2.0	2.0	9307894
1,2-dichloropropane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
cis-1,3-dichloropropene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
trans-1,3-dichloropropene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Methyl methacrylate	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Methyl-tert-butylether (MTBE)	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Styrene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,1,1,2-tetrachloroethane	ug/L	<1.0	<1.0	9303665	<1.0	1.0	9307894
1,1,1,2,2-tetrachloroethane	ug/L	<2.0	<2.0	9303665	<2.0	2.0	9307894
Tetrachloroethene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,2,3-trichlorobenzene	ug/L	<1.0	<1.0	9303665	<1.0	1.0	9307894

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		VD0850	VD0850		VD0851		
Sampling Date		2019/01/22 13:30	2019/01/22 13:30		2019/01/22 09:00		
COC Number		N016958	N016958		N016958		
	UNITS	W:11157020:20190122:Q	W:11157020:20190122:Q Lab-Dup	QC Batch	W:11157020:20190122:TB	RDL	QC Batch
1,2,4-trichlorobenzene	ug/L	<1.0	<1.0	9303665	<1.0	1.0	9307894
1,3,5-trichlorobenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,1,1-trichloroethane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,1,2-trichloroethane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Trichloroethene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Trichlorofluoromethane	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,2,4-trimethylbenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
1,3,5-trimethylbenzene	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Vinyl chloride	ug/L	<0.50	<0.50	9303665	<0.50	0.50	9307894
Surrogate Recovery (%)							
1,4-Difluorobenzene (sur.)	%	98	99	9303665	99	N/A	9307894
4-Bromofluorobenzene (sur.)	%	104	102	9303665	99	N/A	9307894
D4-1,2-Dichloroethane (sur.)	%	94	92	9303665	94	N/A	9307894
RDL = Reportable Detection Limit Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable							

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

OIL AND GREASE - TOTAL, MINERAL, A/V (WATER)

Maxxam ID		VD0850		
Sampling Date		2019/01/22 13:30		
COC Number		N016958		
	UNITS	W:11157020:20190122:Q	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	5.4	0.50	9310084
Extractable Hydrocarbons				
Total Oil and grease	mg/L	5.4	0.50	9310085
TPH COMPOUNDS				
Total Oil & grease Mineral/Synthetic	mg/L	<0.50	0.50	9310086
RDL = Reportable Detection Limit				

Maxxam Job #: B905473
Report Date: 2019/02/08

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.4°C
Package 2	3.4°C
Package 3	4.6°C

Revised Report 2019/02/08: Split files as per client request.

Sample VD0840 [S:11157020:20190122:S3D] : Detection limits raised based on sample volume used for analysis. on Volatiles Batch: 9305218

Results relate only to the items tested.

Maxxam Job #: B905473
Report Date: 2019/02/08

QUALITY ASSURANCE REPORT

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9301455	O-TERPHENYL (sur.)	2019/01/24	93	60 - 140	93	60 - 140	90	%		
9303102	1,4-Difluorobenzene (sur.)	2019/01/25	89 (4)	50 - 140	90	50 - 140	79	%		
9303102	4-Bromofluorobenzene (sur.)	2019/01/25	140 (4)	50 - 140	139	50 - 140	137	%		
9303102	D4-1,2-Dichloroethane (sur.)	2019/01/25	104 (4)	50 - 140	91	50 - 140	114	%		
9303665	1,4-Difluorobenzene (sur.)	2019/01/25	98	50 - 140	98	50 - 140	97	%		
9303665	4-Bromofluorobenzene (sur.)	2019/01/25	101	50 - 140	104	50 - 140	102	%		
9303665	D4-1,2-Dichloroethane (sur.)	2019/01/25	94	50 - 140	91	50 - 140	95	%		
9307894	1,4-Difluorobenzene (sur.)	2019/01/30	98 (7)	50 - 140	98	50 - 140	98	%		
9307894	4-Bromofluorobenzene (sur.)	2019/01/30	104 (7)	50 - 140	105	50 - 140	100	%		
9307894	D4-1,2-Dichloroethane (sur.)	2019/01/30	93 (7)	50 - 140	100	50 - 140	94	%		
9301455	F2 (C10-C16 Hydrocarbons)	2019/01/24	111	60 - 140	104	60 - 140	<0.10	mg/L		
9301455	F3 (C16-C34 Hydrocarbons)	2019/01/24	111	60 - 140	102	60 - 140	<0.10	mg/L	39 (1,2)	30
9301455	F4 (C34-C50 Hydrocarbons)	2019/01/24	104	60 - 140	99	60 - 140	<0.20	mg/L	NC (2)	30
9302144	pH	2019/01/24			100	97 - 103			0.18 (2)	N/A
9302554	Biochemical Oxygen Demand	2019/01/29			95	85 - 115	<2.0	mg/L	3.4 (3)	20
9303102	Benzene	2019/01/25	83 (4)	50 - 140	85	60 - 130	<0.40	ug/L	NC (5)	30
9303102	Ethylbenzene	2019/01/25	92 (4)	50 - 140	94	60 - 130	<0.40	ug/L	NC (5)	30
9303102	F1 (C6-C10)	2019/01/25	94 (4)	60 - 140	101	60 - 140	<100	ug/L	NC (5)	30
9303102	m & p-Xylene	2019/01/25	94 (4)	50 - 140	96	60 - 130	<0.80	ug/L	NC (5)	30
9303102	o-Xylene	2019/01/25	90 (4)	50 - 140	92	60 - 130	<0.40	ug/L	NC (5)	30
9303102	Toluene	2019/01/25	84 (4)	50 - 140	86	60 - 130	<0.40	ug/L	NC (5)	30
9303517	Total Suspended Solids	2019/01/25	NC	80 - 120	92	80 - 120	<1.0	mg/L	11 (2)	20
9303665	1,1,1,2-tetrachloroethane	2019/01/25	98	50 - 140	98	60 - 130	<1.0	ug/L	NC (6)	30
9303665	1,1,1-trichloroethane	2019/01/25	94	50 - 140	94	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,1,2,2-tetrachloroethane	2019/01/25	108	50 - 140	105	60 - 130	<2.0	ug/L	NC (6)	30
9303665	1,1,2-trichloroethane	2019/01/25	101	50 - 140	101	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,1-dichloroethane	2019/01/25	103	50 - 140	103	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,1-dichloroethene	2019/01/25	98	50 - 140	99	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,2,3-trichlorobenzene	2019/01/25	98	50 - 140	100	60 - 130	<1.0	ug/L	NC (6)	30
9303665	1,2,4-trichlorobenzene	2019/01/25	99	50 - 140	101	60 - 130	<1.0	ug/L	NC (6)	30
9303665	1,2,4-trimethylbenzene	2019/01/25	103	50 - 140	107	60 - 130	<0.50	ug/L	NC (6)	30

Maxxam Job #: B905473
Report Date: 2019/02/08

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9303665	1,2-dibromoethane	2019/01/25	105	50 - 140	104	60 - 130	<0.20	ug/L	NC (6)	30
9303665	1,2-dichlorobenzene	2019/01/25	102	50 - 140	104	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,2-dichloroethane	2019/01/25	98	50 - 140	97	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,2-dichloropropane	2019/01/25	109	50 - 140	108	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,3,5-trichlorobenzene	2019/01/25	96	50 - 140	100	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,3,5-trimethylbenzene	2019/01/25	104	50 - 140	107	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,3-dichlorobenzene	2019/01/25	102	50 - 140	104	60 - 130	<0.50	ug/L	NC (6)	30
9303665	1,4-dichlorobenzene	2019/01/25	98	50 - 140	100	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Bromodichloromethane	2019/01/25	100	50 - 140	100	60 - 130	<0.50	ug/L	2.8 (6)	30
9303665	Bromoform	2019/01/25	102	50 - 140	101	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Bromomethane	2019/01/25	106	50 - 140	102	60 - 130	<2.0	ug/L	NC (6)	30
9303665	Carbon tetrachloride	2019/01/25	93	50 - 140	95	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Chlorobenzene	2019/01/25	103	50 - 140	103	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Chlorodibromomethane	2019/01/25	102	50 - 140	102	60 - 130	<1.0	ug/L	3.4 (6)	30
9303665	Chloroethane	2019/01/25	103	50 - 140	102	60 - 130	<1.0	ug/L	NC (6)	30
9303665	Chloroform	2019/01/25	96	50 - 140	95	60 - 130	<0.50	ug/L	0.35 (6)	30
9303665	Chloromethane	2019/01/25	123	50 - 140	123	60 - 130	<2.0	ug/L	NC (6)	30
9303665	cis-1,2-dichloroethene	2019/01/25	100	50 - 140	100	60 - 130	<0.50	ug/L	NC (6)	30
9303665	cis-1,3-dichloropropene	2019/01/25	115	50 - 140	108	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Dichloromethane	2019/01/25	95	50 - 140	93	60 - 130	<2.0	ug/L	NC (6)	30
9303665	Methyl methacrylate	2019/01/25	125	50 - 140	122	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Methyl-tert-butylether (MTBE)	2019/01/25	100	50 - 140	102	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Styrene	2019/01/25	109	50 - 140	112	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Tetrachloroethene	2019/01/25	95	50 - 140	96	60 - 130	<0.50	ug/L	NC (6)	30
9303665	trans-1,2-dichloroethene	2019/01/25	98	50 - 140	98	60 - 130	<0.50	ug/L	NC (6)	30
9303665	trans-1,3-dichloropropene	2019/01/25	138	50 - 140	128	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Trichloroethene	2019/01/25	98	50 - 140	99	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Trichlorofluoromethane	2019/01/25	93	50 - 140	95	60 - 130	<0.50	ug/L	NC (6)	30
9303665	Vinyl chloride	2019/01/25	112	50 - 140	114	60 - 130	<0.50	ug/L	NC (6)	30
9305285	Total Barium (Ba)	2019/01/29	99	80 - 120	100	80 - 120	<0.010	mg/L	0.59 (2)	20
9305285	Total Boron (B)	2019/01/29	98	80 - 120	99	80 - 120	<0.020	mg/L	NC (2)	20

Maxxam Job #: B905473
Report Date: 2019/02/08

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9305285	Total Calcium (Ca)	2019/01/29	NC	80 - 120	101	80 - 120	<0.30	mg/L	0.032 (2)	20
9305285	Total Iron (Fe)	2019/01/29	103	80 - 120	104	80 - 120	<0.060	mg/L	NC (2)	20
9305285	Total Lithium (Li)	2019/01/29	99	80 - 120	99	80 - 120	<0.020	mg/L	NC (2)	20
9305285	Total Magnesium (Mg)	2019/01/29	NC	80 - 120	103	80 - 120	<0.20	mg/L	0.26 (2)	20
9305285	Total Manganese (Mn)	2019/01/29	99	80 - 120	101	80 - 120	<0.0040	mg/L	NC (2)	20
9305285	Total Phosphorus (P)	2019/01/29	101	80 - 120	101	80 - 120	<0.10	mg/L	NC (2)	20
9305285	Total Potassium (K)	2019/01/29	100	80 - 120	99	80 - 120	<0.30	mg/L	4.4 (2)	20
9305285	Total Silicon (Si)	2019/01/29	103	80 - 120	103	80 - 120	<0.10	mg/L	0.099 (2)	20
9305285	Total Sodium (Na)	2019/01/29	96	80 - 120	98	80 - 120	<0.50	mg/L	0.30 (2)	20
9305285	Total Strontium (Sr)	2019/01/29	97	80 - 120	99	80 - 120	<0.020	mg/L	0.065 (2)	20
9305285	Total Sulphur (S)	2019/01/29	99	80 - 120	98	80 - 120	<0.20	mg/L	3.8 (2)	20
9305289	Total Aluminum (Al)	2019/01/28	103	80 - 120	103	80 - 120	<0.0030	mg/L	5.2 (2)	20
9305289	Total Antimony (Sb)	2019/01/28	91	80 - 120	90	80 - 120	<0.00060	mg/L	NC (2)	20
9305289	Total Arsenic (As)	2019/01/28	99	80 - 120	99	80 - 120	<0.00020	mg/L	10 (2)	20
9305289	Total Beryllium (Be)	2019/01/28	100	80 - 120	97	80 - 120	<0.0010	mg/L	NC (2)	20
9305289	Total Chromium (Cr)	2019/01/28	102	80 - 120	100	80 - 120	<0.0010	mg/L	NC (2)	20
9305289	Total Cobalt (Co)	2019/01/28	101	80 - 120	101	80 - 120	<0.00030	mg/L	8.0 (2)	20
9305289	Total Copper (Cu)	2019/01/28	100	80 - 120	101	80 - 120	<0.00020	mg/L	0.35 (2)	20
9305289	Total Lead (Pb)	2019/01/28	102	80 - 120	103	80 - 120	<0.00020	mg/L	3.3 (2)	20
9305289	Total Molybdenum (Mo)	2019/01/28	105	80 - 120	100	80 - 120	<0.00020	mg/L	NC (2)	20
9305289	Total Nickel (Ni)	2019/01/28	100	80 - 120	99	80 - 120	<0.00050	mg/L	2.8 (2)	20
9305289	Total Selenium (Se)	2019/01/28	102	80 - 120	102	80 - 120	<0.00020	mg/L	18 (2)	20
9305289	Total Silver (Ag)	2019/01/28	102	80 - 120	101	80 - 120	<0.00010	mg/L	NC (2)	20
9305289	Total Thallium (Tl)	2019/01/28	103	80 - 120	102	80 - 120	<0.00020	mg/L	NC (2)	20
9305289	Total Tin (Sn)	2019/01/28	105	80 - 120	101	80 - 120	<0.0010	mg/L	NC (2)	20
9305289	Total Titanium (Ti)	2019/01/28	101	80 - 120	99	80 - 120	<0.0010	mg/L	NC (2)	20
9305289	Total Uranium (U)	2019/01/28	101	80 - 120	95	80 - 120	<0.00010	mg/L	9.4 (2)	20
9305289	Total Vanadium (V)	2019/01/28	105	80 - 120	101	80 - 120	<0.0010	mg/L	4.4 (2)	20
9305289	Total Zinc (Zn)	2019/01/28	97	80 - 120	98	80 - 120	<0.0030	mg/L	2.9 (2)	20
9307894	1,1,1,2-tetrachloroethane	2019/01/30	87 (7)	50 - 140	87	60 - 130	<1.0	ug/L	NC (2)	30
9307894	1,1,1-trichloroethane	2019/01/30	86 (7)	50 - 140	83	60 - 130	<0.50	ug/L	NC (2)	30

Maxxam Job #: B905473
Report Date: 2019/02/08

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9307894	1,1,2,2-tetrachloroethane	2019/01/30	93 (7)	50 - 140	102	60 - 130	<2.0	ug/L	NC (2)	30
9307894	1,1,2-trichloroethane	2019/01/30	96 (7)	50 - 140	102	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,1-dichloroethane	2019/01/30	91 (7)	50 - 140	91	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,1-dichloroethene	2019/01/30	79 (7)	50 - 140	77	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,2,3-trichlorobenzene	2019/01/30	92 (7)	50 - 140	89	60 - 130	<1.0	ug/L	NC (2)	30
9307894	1,2,4-trichlorobenzene	2019/01/30	93 (7)	50 - 140	90	60 - 130	<1.0	ug/L	NC (2)	30
9307894	1,2,4-trimethylbenzene	2019/01/30	97 (7)	50 - 140	92	60 - 130	<0.50	ug/L	4.3 (2)	30
9307894	1,2-dibromoethane	2019/01/30	90 (7)	50 - 140	97	60 - 130	<0.20	ug/L	NC (2)	30
9307894	1,2-dichlorobenzene	2019/01/30	97 (7)	50 - 140	93	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,2-dichloroethane	2019/01/30	92 (7)	50 - 140	91	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,2-dichloropropane	2019/01/30	103 (7)	50 - 140	102	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,3,5-trichlorobenzene	2019/01/30	93 (7)	50 - 140	87	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,3,5-trimethylbenzene	2019/01/30	100 (7)	50 - 140	93	60 - 130	<0.50	ug/L	17 (2)	30
9307894	1,3-dichlorobenzene	2019/01/30	94 (7)	50 - 140	92	60 - 130	<0.50	ug/L	NC (2)	30
9307894	1,4-dichlorobenzene	2019/01/30	92 (7)	50 - 140	89	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Bromodichloromethane	2019/01/30	91 (7)	50 - 140	92	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Bromoform	2019/01/30	85 (7)	50 - 140	94	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Bromomethane	2019/01/30	84 (7)	50 - 140	90	60 - 130	<2.0	ug/L	NC (2)	30
9307894	Carbon tetrachloride	2019/01/30	86 (7)	50 - 140	82	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Chlorobenzene	2019/01/30	89 (7)	50 - 140	87	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Chlorodibromomethane	2019/01/30	91 (7)	50 - 140	96	60 - 130	<1.0	ug/L	NC (2)	30
9307894	Chloroethane	2019/01/30	87 (7)	50 - 140	85	60 - 130	<1.0	ug/L	NC (2)	30
9307894	Chloroform	2019/01/30	88 (7)	50 - 140	89	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Chloromethane	2019/01/30	85 (7)	50 - 140	86	60 - 130	<2.0	ug/L	NC (2)	30
9307894	cis-1,2-dichloroethene	2019/01/30	88 (7)	50 - 140	89	60 - 130	<0.50	ug/L	NC (2)	30
9307894	cis-1,3-dichloropropene	2019/01/30	115 (7)	50 - 140	128	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Dichloromethane	2019/01/30	83 (7)	50 - 140	88	60 - 130	<2.0	ug/L	NC (2)	30
9307894	Methyl methacrylate	2019/01/30	115 (7)	50 - 140	122	60 - 130	<0.50	ug/L	14 (2)	30
9307894	Methyl-tert-butylether (MTBE)	2019/01/30	93 (7)	50 - 140	97	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Styrene	2019/01/30	98 (7)	50 - 140	97	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Tetrachloroethene	2019/01/30	82 (7)	50 - 140	78	60 - 130	<0.50	ug/L	5.8 (2)	30

Maxxam Job #: B905473
Report Date: 2019/02/08

QUALITY ASSURANCE REPORT(CONT'D)

GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9307894	trans-1,2-dichloroethene	2019/01/30	79 (7)	50 - 140	78	60 - 130	<0.50	ug/L	NC (2)	30
9307894	trans-1,3-dichloropropene	2019/01/30	124 (7)	50 - 140	136 (1)	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Trichloroethene	2019/01/30	89 (7)	50 - 140	85	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Trichlorofluoromethane	2019/01/30	74 (7)	50 - 140	72	60 - 130	<0.50	ug/L	NC (2)	30
9307894	Vinyl chloride	2019/01/30	76 (7)	50 - 140	76	60 - 130	<0.50	ug/L	NC (2)	30
9310085	Total Oil and grease	2019/01/30			101	85 - 115	<0.50	mg/L	3.5 (2)	25
9310086	Total Oil & grease Mineral/Synthetic	2019/01/30			96	85 - 115	<0.50	mg/L	2.6 (2)	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Duplicate Parent ID

(3) Duplicate Parent ID [VD0850-01]

(4) Matrix Spike Parent ID [VD0846-02]

(5) Duplicate Parent ID [VD0845-02]

(6) Duplicate Parent ID [VD0850-06]



(7) Matrix Spike Parent ID [VD0851-01]

Maxxam Job #: B905473
Report Date: 2019/02/08

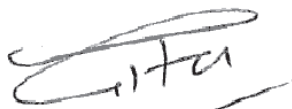
GHD Limited
Client Project #: 11157020
Your P.O. #: 73514547
Sampler Initials: SB

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist



Gita Pokhrel, Senior Analyst



Janet Gao, B.Sc., QP, Supervisor, Organics



Luba Shymushovska, B.Sc., QP, Senior Analyst, Organics



Harry (Peng) Liang, Senior Analyst

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

INVOICE TO:		Report Information			Project Information			Laboratory Use Only	
Company Name	#11476 GHD Limited	Company Name	JENNIFER BALKWILL		Quotation #	B80093		Maxxam Job #	Bottle Order #:
Contact Name	JENNIFER BALKWILL	Contact Name	JENNIFER BALKWILL		P.O. #	73514547		8905473	575031
Address	455 PHILLIP STREET WATERLOO ON N2L 3X2	Address			Project #	11157020		Chain Of Custody Record	Project Manager
Phone	(519) 884-0510	Phone			Project Name			Janelle Kochan	
Fax	(519) 725-1394	Fax	nicholas.haver		Site #				
Email	jennifer.balkwill@ghd.com	Email	jennifer.balkwill@ghd.com		Sampled By	S. Bishop		C#575031-01-01	

Regulatory Criteria	Special Instructions	Analysis Requested	Turnaround Time (TAT) Required
		Regulated Drinking Water ? (Y/N) Metals Field Filtered ? (Y/N) Regulated Metals in Water (CCME/AT) - Total Mercury in Water - Low Level (Total) Total Hexavalent Chromium in Water BTEX and F1-F4 in Water BTEX and F1 WATER Elements by ICPMS - Soils Hexavalent Chromium in Soil BTEX and F1-F4 in Soil (Vials) VOCs in Soil by HS GC/MS (Std List) BTEX F1	Please provide advance notice for rush projects Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number _____ (call lab for #)

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form
 Samples must be kept cool (< 10°C) from time of sampling until delivery to maxxam.

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Regulated Metals in Water (CCME/AT) - Total	Mercury in Water - Low Level (Total)	Total Hexavalent Chromium in Water	BTEX and F1-F4 in Water	BTEX and F1 WATER	Elements by ICPMS - Soils	Hexavalent Chromium in Soil	BTEX and F1-F4 in Soil (Vials)	VOCs in Soil by HS GC/MS (Std List)	BTEX F1	# of Bottles	Comments
1	S:11157020:20190122:52	19/01/22	12:45	Soil								X	X	X	X		4	
2	S:11157020:20190122:52	19/01/22	13:00	Soil								X	X	X	X		4	
3	S:11157020:20190122:53	19/01/22	11:30	Soil								X	X	X	X		4	
4	S:11157020:20190122:53D	19/01/22	11:35	Soil								X	X	X	X		4	
5	S:11157020:20190122:54	19/01/22	11:00	Soil								X	X	X	X		4	
6	S:11157020:20190122:55	19/01/22	11:10	Soil								X	X	X	X		4	
7	S:11157020:20190122:56	19/01/22	11:20	Soil								X	X	X	X		4	
8	S:11157020:20190122:TB	19/01/22	9:00	Soil												X	2	
9	SW:11157020:20190122:SW1	19/01/22	9:35	SW	N	N	X	X	X	X							7	
10	SW:11157020:20190122:SW2	19/01/22	10:05	SW	N	N	X	X	X	X							7	

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# Jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
<i>Steph Bishop</i>	19/01/23	9:55	<i>Janelle Kochan</i>	2019/01/23	10:00		<input type="checkbox"/>	65/63/63	<input type="checkbox"/> Yes <input type="checkbox"/> No
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.							White: Maxxam Yellow: Client		
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.							ice present		



Maxxam Analytics International Corporation or a Maxxam Analytics
 D-675 Berry Street, Winnipeg, Manitoba Canada R3H 1A7 Tel:(204) 772-7276 Toll-free:800-563-6266 Fax:(204) 772-2385 www.maxxam.ca

Chain Of Custody Record

Page 2 of 3

INVOICE TO:		Report Information		Project Information		Laboratory Use Only	
Company Name	#11476 GHD Limited	Company Name	JENNIFER BALKWILL	Quotation #	B80093	Maxxam Job #	Bottle Order #:
Contact Name	JENNIFER BALKWILL	Contact Name	JENNIFER BALKWILL	P.O. #	73514547		
Address	455 PHILLIP STREET	Address		Project #	11157020		575031
	WATERLOO ON N2L 3X2			Project Name		Chain Of Custody Record	Project Manager
Phone	(519) 884-0510 Fax: (519) 725-1394	Phone		Site #			Janelle Kochan
Email	jennifer.balkwill@ghd.com	Email	jennifer.balkwill@ghd.com	Sampled By	S. Bishop	C#575031-02-01	

Regulatory Criteria	Special Instructions	Analysis Requested	Turnaround Time (TAT) Required
		Regulated Drinking Water ? (Y/N) Metals Field Filtered ? (Y/N) Regulated Metals in Water (CCME/ATT) - Total Mercury in Water - Low Level (Total) Total Hexavalent Chromium in Water BTEX and F1-F4 in Water BTEX and F1 WATER Elements by ICPMS - Soils Hexavalent Chromium in Soil BTEX and F1-F4 in Soil (Vials) VOCs in Soil by HS GC/MS (Std List)	Please provide advance notice for rush projects Regular (Standard) TAT (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. <input checked="" type="checkbox"/> Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number _____ (call lab for #)

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

Samples must be kept cool (< 10°C) from time of sampling until delivery to maxxam

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Regulated Metals in Water (CCME/ATT) - Total	Mercury in Water - Low Level (Total)	Total Hexavalent Chromium in Water	BTEX and F1-F4 in Water	BTEX and F1 WATER	Elements by ICPMS - Soils	Hexavalent Chromium in Soil	BTEX and F1-F4 in Soil (Vials)	VOCs in Soil by HS GC/MS (Std List)	# of Bottles	Comments
1	SW: 11157020: 20190122: SW20	24/01/22	10:10	SW	N	N	X	X	X	X						7	
2	SW: 11157020: 20190122: SW3	2019/01/22	10:30	SW	N	N	X	X	X	X						7	
3	SW: 11157020: 20190122: TB	14/01/22	9:00	SW	N	N					X					2	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# Jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
	14/01/23	9:55		2019/01/23	10:00		<input type="checkbox"/>	6.5/6.3/6.3	<input type="checkbox"/> Yes <input type="checkbox"/> No
* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.							* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.		
							ice present		

INVOICE INFORMATION		REPORT INFORMATION (if different from invoice)		PROJECT INFORMATION		MAXXAM JOB NUMBER	
Company Name: #11476 GHJ Limited		Company Name:		Quotation #: B80043		CHAIN OF CUSTODY # N 016958	
Contact Name: Jennifer Backwell		Contact Name: Jennifer Backwell		P.O. #: 73514547			
Address: 435 Phillip Street		Address:		Project #:			
519 Waterloo ON N2L3X2		Phone: _____ Fax: _____		Project Name:			
Phone: (519) 884-0510 Fax: _____		Email: jennifer.backwell@ghj.com		Location:			
Email: jennifer.backwell@ghj.com		Email: jennifer.backwell@ghj.com		Sampled By: S. Bishop			

REGULATORY REQUIREMENTS SERVICE REQUESTED:						ANALYSIS REQUESTED (Please be specific)										TURNAROUND TIME (TAT) REQUIRED										
CCME						Drinking Water? (Y/N)	Coliforms: <input type="checkbox"/> Total <input type="checkbox"/> Fecal <input type="checkbox"/> E. coli		Dissolved Metals	Total Metal	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Oil and Grease (Speciated)	pH	BOD	TS	VOC	ICPMS metals (Polyscan)	MAXXAM	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.				
DRINKING WATER							<input type="checkbox"/> MF <input type="checkbox"/> IMPN <input type="checkbox"/> OT															Field Filtered?	Field Acidified?	Field Acidified?	Regular (Standard) TAT:	
Other:							Y <input type="checkbox"/> N <input type="checkbox"/>															Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input type="checkbox"/> N <input type="checkbox"/>	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	<input checked="" type="checkbox"/> 5 to 7 Working Days	
Special Instructions:														Rush TAT:						DATE Required: _____						
SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.																				TATs for certain tests are > 5 days. Please contact your Project Manager for details.						
Lab Use	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil etc)	Drinking Water? (Y/N)	Coliforms (Method)	Dissolved Metals	Total Metal	BTEX / F1	F2 - F4	PCB	Biochemical Oxygen Demand	Oil and Grease (Speciated)	pH	BOD	TS	VOC	ICPMS metals (Polyscan)	MAXXAM	# of Cont.	COMMENTS					
1	W-11157020:20190122:G	19/01/22	13:30	W	N				X	X			X	X	X	X	X	X	X							
2	W-11157020:20190122:75	19/01/22	9:00	W	N				X								X	X	X							
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

RELINQUISHED BY (Signature/Print)		RECEIVED BY (Signature/Print)		Date	Time	RECEIVED ON ICE	Laboratory Use Only
Steve Bishop		Jocelyne M.		19/01/23	9:55	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	Temperature (°C) on Receipt
				2019/01/23	10:00		6.5/6.3/6.3

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Maxxam's standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms which are available for viewing at www.maxxam.ca/terms

***MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**

TOWN OF ALTONA

By-law No. 252

A by-law of the Town of Altona regulating and controlling common sewers and sewer connections.

The Municipal Council of the Town of ~~Merrie~~ ^{ALTONA}, in meeting duly assembled, enacts as follows:

1. This By-law may be referred to as the "Sewer By-law".
2. This by-law shall be administered by the Superintendent or his authorized representative.
3. (1) The Superintendent shall have control of common sewers and drains of the Town, and shall take charge of the building and repairs thereof and all matters in connection with the sewerage of the Town.

(2) The Superintendent or other duly authorized employees of the Town, bearing proper credentials and identification, may enter upon all properties for the inspection, observation, measurement, sampling and testing in accordance with the provisions of this by-law.
4. Unless the context otherwise requires, whenever used in this by-law
 - (a) "person" includes firm, corporation, society, association, group, or partnership.
 - (b) "Superintendent" means the authorized representative of Council who shall act as administrator of this By-law and Superintendent of the Sewer Utility.
 - (c) "common sewer" includes all sewers and drains of every description vested in or under the control of the Town of Altona.
 - (d) "sewer connection" means any piping system that conveys sewage, rainwater or other waste from any premises to a common sewer;
 - (e) "premises" includes any property or building;
 - (f) "industrial wastes" means wastes from industrial processes;
 - (g) "properly shredded garbage" means the wastes from the preparation, cooking and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in a common sewer, with no particle greater than one-half inch in any dimension;
 - (h) "Biochemical Oxygen Demand" (B.O.D.) means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20° C., expressed in parts per million by weight.
 - (i) "pH" means the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution;
 - (j) "suspended solids" means solids that either float on the surface of, or are in suspension in water, sewage, or other liquids, and which are removable by laboratory filtering;
5. No common sewer or drain of any description shall be constructed in the Town except under the supervision and direction of the Superintendent.
6. If a person, having been duly required to connect any property with a common sewer or drain or to make any repairs, reconstruction or replacement thereof or in connection therewith, neglects or refuses so to do, the Superintendent may make such connection or do such repairs, reconstruction or replacement. The cost thereof, when certified by the Superintendent, shall be added to the taxes on the said property and collected as other municipal taxes of the Town.

7. No unauthorized person shall uncover, make any connections with, or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining written permission from the Superintendent.
8. There shall be two classes of sewer connections:
 - (a) for residential and commercial service;
 - (b) for service to establishments producing industrial wastes.
9. The owner or his agent shall make application for sewer connections on a form furnished by the Town. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgement of the Superintendent.
10. A permit and inspection fee of Two (\$2.00) Dollars shall be made at the time the application is filed.
11. All costs and expense incident to the installation of a sewer connection shall be borne by the owner. The owner shall indemnify the Town from any loss or damage that may directly or indirectly be occasioned by the installation or the sewer connection.
12. All permissions given to connect with a sewer or drain shall be upon the express condition that the Town may at any time revoke and annul the same, and the person making such connections or their successors in interest shall have no claim against the Town for damages in consequence of such permission being revoked or annulled.
13. A separate and independent sewer connection shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway, the ~~existing~~ sewer connection from the front building may be extended to the rear building and the whole considered as one sewer connection.
14. Old sewer connections may be used in connection with new buildings only when they are found, on examination and test by the Superintendent to meet all requirements of this ordinance.
15. The sewer connection shall be cast iron soil pipe, ASTM specification (A74-42) or equal; vitrified clay sewer pipe, ASTM specification (C13-44) or equal; or other suitable material approved by the Superintendent. Joints shall be tight and waterproof. Cast iron pipes with leaded joints may be required by the Superintendent where the sewer connection is exposed to damage by tree roots. If installed in filled or unstable ground, the sewer connection shall be of cast iron soil pipe, except that non metallic material may be accepted if laid on a suitable concrete bed or cradle as approved by the Superintendent.
16. The size and slope of the sewer connection shall be subject to approval of the Superintendent, but in no event shall the diameter be less than four (4) inches. The slope of a six (6) inch pipe shall be not less than one-eighth inch per foot, and the slope of a four (4) inch ~~sewer~~ pipe shall be not less than one-quarter ($\frac{1}{4}$) inch per foot.
17. Whenever possible the sewer connection shall be brought to the building at an elevation below the basement floor. No sewer connection shall be laid parallel to or within three (3) feet of any bearing wall, which might thereby be weakened. The depth shall be sufficient to afford protection from frost. The sewer connection shall be laid at uniform grade and in a straight alignment in so far as possible. Changes in direction shall be made only with properly curved pipe and fittings or fittings of not less than 135°.
18. In all buildings in which any sewer connection or building drain is too low to permit gravity flow to the public sewer or common sewer, sanitary sewage carried by such drain shall be lifted by approved artificial means and discharged to the sewer connection.

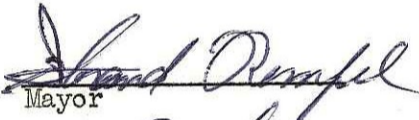
19. All excavations required for the installation of a sewer connection shall be open trench work unless otherwise approved by the Superintendent. Pipe laying and backfill shall be performed in accordance with ASTM specification (C12-19) except that no backfill shall be placed until the work has been inspected.
20. All joints and connections shall be made gastight and water-tight.
21. No connection shall be made with any sewer or drain except by persons regularly licensed to perform that description of work.
22. Licenses shall not be issued to any person until the applicant has paid to the Town Clerk a fee of Fifty (\$50.00) Dollars.
23. Licenses issued under the provisions of this By-law shall remain in force until the 31st. day of December in the year of issue.
24. Every person receiving a license under this By-law shall file with the Town Clerk a bond issued by an insurer authorized to carry on the business of guarantee insurance in the Province of Manitoba, in the sum of One Thousand (\$1,000.00) Dollars conditioned that he will indemnify and hold harmless the Town from and against all accidents, suits and damages of whatever nature consequent thereupon for or by reason of any opening in any street made by him or by his agents or employees for making any public or private sewer, for making any connection with any public sewer or private sewer or for any other purpose or object whatever, and that he will also replace and restore the street in a manner satisfactory to the Superintendent, and shall conform in all respects to the rules, regulations and by-laws of the Town and to any statute of the Province of Manitoba passed in that regard.
25. When a sewer connection is abandoned the owner or his agent shall effectively block up the connection so as to prevent sewage backing up into the soil, or dirt being washed into the sewer.
26. Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described kinds of water or waste to any drain or sewer of the Town or to any drain connecting with the drainage or sewerage system of the Town:
 - (a) any storm water, surface water or roof run-off.
 - (b) any liquid or vapor having a temperature higher than 150° F.
 - (c) any water or waste which may contain more than 100 parts per million, by weight, of fat, oil or grease;
 - (d) any gasoline, benzene, naphtha, fuel oil, or other inflammable or explosive liquid, solid or gas;
 - (e) any garbage other than "properly shredded garbage" as defined in Section 4 of this By-law;
 - (f) any ashes, cinders, sand, stone, dust, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, paunch manure, blood, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage system;
 - (g) any water or waste having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage system;
 - (h) any water or waste containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to persons or animals or create any hazard in the receiving water of the sewage lagoon;
 - (i) any water or waste containing suspended solids of such character and quantity that may injure equipment in the lift station;
 - (j) any noxious or malodorous gas or substance capable of creating a public nuisance.


- (1)
27. Grease, oil and sand interceptors shall be provided by the owner when, in the opinion of the Superintendent, they are necessary for the proper handling of liquid wastes, sand and other harmful ingredients.
- (2) Such interceptors shall not be required for private living quarters or dwelling quarters.
- (3) All interceptors shall be of a type and capacity approved by the Superintendent, and shall be located so as to be readily and easily accessible for cleaning and inspection.
- (4) Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperatures, and shall be of substantial construction, watertight, and equipped with easily removable covers which when bolted in place shall be gastight and watertight.
- (5) Where installed, all grease, oil and sand interceptors shall be maintained by the owner, at his expense, in continuously efficient operation at all times.
28. (1) The admission into Town sewers of any water or waste having (a) a five-day Biochemical Oxygen Demand greater than 300 parts per million by weight, or (b) containing more than 350 parts per million by weight of suspended solids, or (c) containing any quantity of substances having the characteristics described in Section 26, or (d) having an average flow greater than 2% of the average daily sewage flow of the Town, shall be subject to review and approval of the Superintendent. Where necessary in the opinion of the Superintendent, the owner shall provide, at his expense, such preliminary treatment as may be necessary to (a) reduce the Biochemical Oxygen Demands to 300 parts per million by weight, or (b) reduce the suspended solids to 350 parts per million by weight, or (c) reduce objectionable characteristics or constituents to within the maximum limits provided for in Section 26, or (d) control the quantities and rates of discharge of such waters or wastes. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the Superintendent, and no construction of such facilities shall be commenced until said approval is obtained in writing.
- (2) Where preliminary treatment facilities are provided for any water or waste, they shall be maintained continuously in satisfactory and effective operation, by the owner at his expense.
29. (1) When required by the Superintendent, the owner of any property served by a sewer connection carrying industrial wastes shall install a suitable control manhole in the sewer connection to facilitate observation, sampling and measurement of wastes.
- (2) Such manhole, when required, shall be accessably and safely located, and shall be constructed in accordance with plans approved by the Superintendent.
- (3) The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.
30. All measurements, tests and analyses of the characteristics of water and waste to which reference is made in Sections 26 and 28 of this By-law shall be determined in accordance with the Standard Methods for Examination of Water and Sewage, and shall be determined at the control Manhole provided for in Section 29 of this By-law, or upon suitable samples taken at said manhole.
31. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the common sewer to the point at which the sewer connection enters.
32. No statement contained in this By-law shall be construed as preventing any special agreement or arrangement between the Town and any industrial

concern whereby an industrial waste of unusual strength or character may be accepted by the Town for treatment, subject to payment by the industrial concern.

33. No unauthorized person shall maliciously, wilfully, or negligently break, damage, destroy, uncover, deface or tamper with any structure, appurtenance, or equipment which is a part of the municipal sewage ~~system~~ system. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct.
34. ~~The invalidity~~
Any person found guilty of a breach of any provisions of this By-law, except Section 33 hereof, shall be liable upon conviction thereof to a penalty or fine not exceeding Fifty (\$50.00) Dollars and costs.
35. In addition to any other penalty, any sewer or drain into which liquid, solid or matter drains, enters, flows, is placed or allowed to be placed contrary to Section 26 hereof may be cut off and stopped up by the Superintendent.
36. The invalidity of any section, clause, sentence, or provision of this ordinance shall not effect the validity of any other part of this ordinance which can be given effect without such invalid part or parts.
37. This ordinance shall be in full force and effect from and after the passage hereof.

DONE AND PASSED by Council of the Town of Altona, in meeting assembled at the Council Chambers of the said Town, at Altona, in Manitoba, this 9th. day of June A.D. 1958.


Mayor


Secretary-Treasurer

Appendix F

Facility Emergency Response Plan

**A&I Products Altona
Emergency Response
Plan**



Altona, Manitoba

2018

**A&I Products Altona
EMERGENCY RESPONSE PLAN**

Includes:

- Emergency Escape Routes and Assembly Areas

Author: Ryan Fredrich

1/1/2018

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INTRODUCTION

An Emergency is any situation – actual or imminent – that endangers the security, safety and welfare of A&I Products Altona (A&I) workers, visitors, contractors, property or the environment.

This plan is designed as a reference guide to help workers respond immediately and effectively to a wide range of emergency situations. It is recommended that this guide be read in advance of an emergency in order to be better prepared.

During emergency conditions, avoid making telephone calls except for calls of an emergency nature.

Workers who require accommodation in an emergency should notify Unit Human Resources. All information will be kept confidential.

REMEMBER:

Time is critical in responding to any emergency - and the safety and well-being of people always comes first, before protection of property.

ANNUAL REVIEW / REVISION

The Emergency Response Plan will be reviewed, revised and updated on an annual basis or when significant changes in the facility or personnel require the plan to be updated.

This review / revision will be completed by the Environment, Health & Safety (EHS) Department in consultation with the onsite Safety Designate A&I Safety and Health Committee (SHC).

EMERGENCY TELEPHONE NUMBERS

In the event of an Emergency requiring the services of Police, Ambulance or the Fire Department call:

9 - 9 – 1 – 1 from any phone in the building.

When you call:

- Identify yourself and the specific location of the emergency;
- Give the building, department, aisle/post column number and phone number;
- Tell what has occurred being concise and factual;
- Report injuries, and identify potential causes of situation;
- Identify the immediate help needed;
- Notify your Supervisor, HR and the Special Situations Coordinator.

(See Appendix 1 for Emergency Contact Numbers)

MEDICAL EMERGENCY

EMERGENCY ACTIONS - In the event of an injury or other medical emergency:

- Administer First Aid if necessary;
- Call 9- 9-1-1;
- Notify the on shift Supervisor. On shift Supervisor will notify Safety Designate, Special Situation Coordinator, EHS Professional etc.;
- Comfort the injured worker until help arrives.

When Calling 911, Identify:

- The name of the person(s) needing medical attention;
- The location: building, department, floor, office/room, or column location.

When Calling 911, Describe the Situation:

- What has happened;
- Type(s) of injuries;
- Help needed.

Alert other workers in the area that a medical emergency is occurring and to remain calm. Ensure them that help is on the way / seek assistance from workers in the area if necessary. **Do not under any circumstance drive, someone who is not feeling well anywhere including, to the hospital, doctor, or home.**

TRANSPORTATION IN A MEDICAL MINOR INJURY/ILLNESS (Non-Life Threatening Emergency):

A&I will provide transportation, at the company's expense, to transport a worker or visitor to the nearest hospital or medical center. **Personal vehicles shall not be used.** A worker certified in First Aid may accompany the injured/ill worker if the situation is deemed necessary. Transportation will also be provided for the injured/ill worker to return to the facility, as will the First Aid Attendant if sent.

REPORTING: Follow Incident Reporting and Investigation Policy (CHS 8), and Fatality/ Serious Injury Investigation Check List [CHS 8(d)] if applicable.

FIRST AID TRAINED WORKERS: See site specific First Aid and AED Policy [CHS 19 (i)].

FIRE EMERGENCY

If fire, smoke, or an explosion is discovered within the facility activate the closest Emergency Signal. Notify your Supervisor once in a safe location and call Emergency Services. Provide the following:

- Name and telephone extension you are calling from;
- Identify fire location: building, department, floor, or office/room;
- Describe the situation, the source of fire if known and what has happened.

When the evacuation signal is heard, immediately evacuate the building through the nearest emergency exit. Report to the Assembly Area and ensure that you are accounted for during the head count.

Contractors and Visitors must evacuate to the designated Assembly Area as indicated in Appendix 2.

(See Appendix 2 for the Incident Response structure and specific evacuation directions).

WHEN EVACUATION IS NECESSARY:

Immediately Evacuate the Building through the nearest Emergency Exit:

- Stop / park mobile equipment (leave the key in);
- Do not use landline telephones for outside calls;
- Do not talk or shout – avoid creating confusion;
- Do not attempt to carry anything;
- Keep a copy of your current evacuation floor plan in the front pocket of this manual;
- Do not go back into the building until given the “ALL-CLEAR”.

Know the location of fire emergency resources in the area:

- Fire extinguishers;
- Fire exits and evacuation routes.

SEVERE WEATHER / NATURAL DISASTER

Severe thunderstorms, tornadoes and other natural disasters may affect this location. This section includes procedures that should be followed in the event of severe weather or a natural disaster.

EMERGENCY ACTIONS – Should threatening weather conditions develop; the Management Team and the Special Situations Coordinator will monitor the approach and severity of the weather.

TORNADO WATCH means weather conditions are favorable to the formation of tornadoes.

TORNADO WARNING means a tornado has been sighted in the area.

If the Weather Service (Environment Canada) issues a severe weather or tornado warning for your area and if the Special Situations Coordinator determines that the Company's facilities are in imminent danger, they will issue an appropriate warning

- Close all doors and stay away from windows;
- Workers should move to a pre-planned shelter;
- Remain in the shelter until an "ALL-CLEAR" is given.

SHELTERS

Best areas for shelter include:

- Inside walls of corridors;
- Restrooms without windows;
- Interior hallways on lowest or ground floor.

Area to avoid:

- Lobbies;
- Walkways;
- End rooms in one-story buildings;
- Rooms with large glass areas;
- Hallways that could become "wind tunnels".

In open country:

- Do not attempt to drive out of the way of a tornado. Tornadoes are very unpredictable in their movements. Get out of your car and lie flat in the nearest ditch or ravine, face down with hands over the back of your head.

NATURAL DISASTER

Blizzards, floods, lightning and earthquakes may pose dangers.

EMERGENCY ACTIONS:

BLIZZARDS

- The Special Situations Coordinator will monitor approaching winter storm conditions, freezing rain, sleet, heavy snow, sustained high winds, and wind-chill and issue an appropriate warning via the public address system if deemed necessary.

FLOODS

- In heavy rains, be aware of flash floods;
- If you see any possibility of a flash flood occurring, move immediately to a safer location;
- Monitor reports on flood conditions;
- If advised to evacuate, leave immediately.

LIGHTNING

- When a thunderstorm threatens, go inside immediately for protection;
- If indoors, stay away from windows, water, sinks and faucets. In a car, stay there;
- If caught outside, stay away from any object that could act as a natural lightning rod, such as a tall tree in an open area or chain link fence;
- Stay clear of open fields, open water or small isolated sheds;
- Get away from fences or other metal objects.

EARTHQUAKES

Falling objects pose the greatest danger during a major earthquake. Many types of objects may fall and cause damage or injuries. Of prime concern, therefore, is protection from falling objects such as framed pictures, light fixtures, plaster from ceilings or the upper part of walls, or chimneys which may fall outside or through the roof into the house.

Here is what to do:

- Stay calm - don't panic;
- If you are indoors, stay there. Do not run outside, you could be hit by flying debris or bits of glass. Take cover under, and hold on to a sturdy desk, a table, or a bed, or stand in a doorframe;
- If you are outdoors, stay there. Keep away from power lines and buildings. (House chimneys are likely to topple during a strong earthquake);
- If you are in a vehicle, stop and park away from buildings, bridges and overpasses.

What should you do after a strong earthquake?

- Stay calm
- Help the injured, if any. Speak calmly with co-workers, especially about what has just happened, in order to relieve stress
- Stay tuned to the radio / TV if possible and follow instructions
- Use the telephone only in an emergency
- Do not enter damaged buildings.

UTILITY FAILURE

EMERGENCY ACTIONS

ELECTRICAL POWER LOSS

- Notify your Supervisor. Your Supervisor will call the Facility Maintenance Department (Jerrold Stoesz - 905-315-2033 or by radio);
- Stop / park mobile equipment (leave key in equipment);
- Turn off all electrical office and computer equipment. Some equipment, if left on, could be damaged when power is restored;
- DO NOT UNPLUG TELEPHONES;
- Remain in the area if power loss is not related to another emergency condition, such as smoke or fire and is safe to do so;
- Await further instructions from the Special Situations Coordinator;
- Recheck equipment after power is restored.

If a vapor, fume, or gas leak is apparent, leave the area immediately and report your findings.

WATER, AIR CONDITIONING OR HEATING SYSTEM LOSS

- Notify your Supervisor. Your Supervisor will call the Facility Maintenance Department (Jerrold Stoesz - 905-315-2033 or by radio).

CHEMICAL SPILLS

EMERGENCY ACTIONS FOR UNKNOWN OR HAZARDOUS CHEMICAL SPILLS:

- Evacuate the area immediately notifying others as you leave;
- Call the Special Situations Coordinator immediately after you have exited the area;
- Give as much information about the spill and your condition as possible;
- Notify your Supervisor.

Treat personal exposures immediately

- Get into fresh air.
- Remove contaminated clothing.

Eye / Skin Contact

- Flush affected eye or skin areas with water continuously for a minimum of 15 minutes;
- Remove contaminated clothing.

Inhalation

- Get into fresh air;
- Get all other personnel away from danger;
- Evaluate the severity of the spill.

Identify

- The chemical spilled from the container label and by reviewing the safety data sheet (M)SDS;
- Approximate quantity;
- Location of the spill and source: building, department, floor, office or column or aisle.

Regardless of the quantity, for any spill of an unknown or hazardous chemical, contact the Special Situations Coordinator.

Spill reporting is required when there is a possibility of contamination of the "natural environment."

EMERGENCY ACTIONS FOR OIL OR OTHER CHEMICAL SPILLS:

Only trained personnel should attempt to clean up spills. Cleaning up chemical spills is dangerous and should only be performed by properly trained persons.

Clear all persons out of the area who are not directly involved in the cleanup. Obtain a Material Safety Data Sheet/Safety Data Sheet (M)SDS for the chemical that was spilled. (M)SDS's are located at www.jdmsds.com.

- If possible, stop the source of the spill;
- Contain the spilled material utilizing available spill kits;
- Indoor spills: Keep chemical inside building, away from doors and drains;
- Outdoor spills: Keep chemical away from storm water drains and water sources;
- Call your Supervisor and give as much information about the spill as possible;
- Remain on-site until a spill responder has arrived or until you receive further instruction that you can leave.

In the event of a major spill, immediately report the spill to your Supervisor. Your Supervisor will contact the Special Situations Coordinator.

The Special Situations Coordinator will contact the Unit EHS Professional if required. The Unit EHS Professional will determine if the Spills Action Centre needs to be contacted.

(See Appendix 3 for Environmental Reporting details)

WEAPONS / BOMB THREAT

EMERGENCY ACTIONS

If there is a potentially dangerous person in the area:

- Call the Special Situations Coordinator or Enterprise Security Operations Centre (ESOC) when it is safe to do so;
- Identify yourself, the location and the specific location of the menacing person;
- Give as much information as possible;
- Stay on the line until help arrives or when told to terminate the call;
- Remain calm and cooperate with the person;
- Make no sudden movements;
- Offer no resistance, nor do anything that may endanger anyone;
- Position yourself, if possible, so that an escape route is readily accessible;
- Observe the person and their description such as height, weight, race, hair, eye color, facial hair, clothes, and identifying marks;
- If the person is carrying a weapon, try to describe it;
- Observe direction of travel if subject leaves and the description and license number of vehicle;
- If safe to do so, quietly leave the area.

If you receive a Bomb Threat by phone:

- Remain calm;
- Attempt to keep the caller on the line as long as possible continuously soliciting more information;
- Record details on the Bomb Threat Checklist;
- Notify the Supervisor and the Special Situations Coordinator. The decision will be made to declare an emergency and evacuate the building, Emergency Services will be called at this time.

If you discover a suspicious item such as a package or briefcase:

- DO NOT TOUCH, MOVE, or DISTURB;
- Report location and description of suspicious items to the Special Situations Coordinator.

BOMB THREAT CHECKLIST

Use this form to record all information if a bomb threat is received.

TELEPHONE BOMB THREAT FORM

- Date: _____
- Call Display information: _____
- Time Received: _____
- Caller's exact words:

Ask the caller to repeat the message. Tell the individual you are having difficulty hearing the message.

BE CALM, BE COURTEOUS, LISTEN AND DO NOT INTERRUPT.

Questions to ask the caller in a natural manner:

- Where is the bomb? _____
- When will it explode? _____
- What kind of bomb is it? _____
- What does the bomb look like? _____
- Where is the bomb right now? _____
- Why did you place it? _____
- Where are you calling from? _____
- What is your name? _____
- Tell the caller the building is occupied and the bomb could cause death or injury to innocent people.

BE CALM, BE COURTEOUS, LISTEN AND DO NOT INTERRUPT.

Circle all applicable

- | | | |
|--------------------------------|--------------|------------------|
| - Male | - Impediment | - Angry |
| - Female | - Incoherent | - Excited |
| - Laughter | - Irrational | - High |
| - Crying | - Raspy | - Disguised |
| - Adult | - Unusual | - Slow |
| - Juvenile | - Breathing | - Rapid |
| - Normal | - Foul | - Familiar |
| - Slurred | - Calm | - Cracking voice |
| - Accent | - Deep | - Soft |
| - Well-spoken | - Clearing | - Loud |
| - Nasal speech | - Throat | - Recorded/taped |
| - Message read by threat maker | | |

BACKGROUND NOISES

Circle all applicable

- | | | |
|--------------------|--------------------|----------------------|
| - Street | - Aircraft | - Factory machinery |
| - Dishes | - Quiet | - On or off premises |
| - Voices | - Animal(s) | - Cars |
| - PA System | - Long distance | - Trucks |
| - Music | - Office equipment | - Road noises |
| - Household noises | - Static | |

CALL TERMINATED:

- Day: _____ Date: _____ Time: _____ am/pm
- Your name: _____
- Department: _____
- If voice is familiar, who did it sound like? _____
- Did the caller indicate knowledge of the John Deere facility? If yes, explain: _____

Notify the Special Situations Coordinator immediately after the caller hangs up.

MEDIA COMMUNICATIONS

Emergency situations attract media attention. For that reason, media crisis communications are an important part of emergency response procedures.

EMERGENCY ACTIONS

- If media arrives at A&I, contact the Special Situations Coordinator;
- Special Situations Coordinator should direct all media inquiries to the Corporate Communications Department;
- Workers are NOT to conduct media interviews;
- This will help ensure that all media interview the designated spokesperson and all information supplied to the media is accurate and consistent.

EMERGENCY EQUIPMENT / PROCESS SHUTDOWN

In the case of an emergency and if safe to do so, operators are trained to shut down their equipment using the “Emergency Stop” buttons of the equipment.

Mobile equipment operators are to stop / park mobile equipment (leave the key in the equipment).

This equipment must be shut down in an evacuation due to the additional hazards that it presents if left running.

HARASSING / OBSCENE PHONE CALLS

If receiving harassing calls, the best way to handle the situation is to immediately hang up without saying anything to the caller. If the caller does not receive a response, he/she will usually stop calling.

- If the calls are threatening in any way, or are continuous, contact HR and the Special Situations Coordinator;
- HR/Special Situations Coordinator will notify Enterprise Security Operations Center (ESOC).

Please provide the following information:

- Your name, extension number, and location;
- Date and time of harassing calls;
- Content of the calls.

If any harassing or obscene messages are left on voice mail, save those messages in case they are needed for evidence.

HIGHWAY/RAIL EMERGENCIES

A&I is located near highways and railways and therefore is at risk of being involved in an unforeseen incident. Incidents may occur on either the highway or railway that may cause a negative impact on A&I's business, distract workers or generate a sense of panic.

In the event of a rail or highway incident affecting A&I:

- Remain calm, don't panic as this will add the problem;
- Follow any directions given over the P.A. system, by Management or the Special Situations Coordinator;
- Evacuate the building only if told to do so;
- If no directions are being communicated through the radio or PA system, wait in your work area until directions are given by the Special Situations Coordinator or your Supervisor.

WORKPLACE VIOLENCE

When there is an immediate threat from an armed or violent individual in the workplace, there are three responses:

1. Run (preferred);
2. Hide (if unable to evacuate);
3. Take Action (only if your life is in imminent danger).

Run (preferred)

1. Understand your surroundings and have an escape route in mind
2. Leave your belongings behind
3. Keep your hands visible so responding law enforcement can see you're not armed

Hide (if unable to evacuate):

1. Hide in an area out of the armed or violent person's view
2. Block entry to your hiding place and lock the doors if possible
3. Silence your cell phone and other electronic devices

Take Action (only if your life is in imminent danger)

1. Only as a last resort and if your life is in imminent danger
2. Attempt to incapacitate the armed or violent individual
3. Act with physical aggression and improvise with potential weapons

In every situation where there is an armed or violent threat in the workplace:

Safely call 911 as soon as you can and provide the following:

- Location of the threatening/armed individuals
- Number of threatening/armed individuals
- Physical descriptions
- Number or types of weapons (firearms, knives, etc.)
- Number of potential victims

DOCUMENT APPROVAL

DOCUMENT APPROVAL			
Approved By:	Andrew Fisher	Date:	October 12, 2017
Approved By:	Gary Krahn	Date:	February 28, 2017
Approved By:	David Stoesz	Date:	October 12, 2017

REVISION HISTORY			
Revision	Date	Description	By
000-000-001	8/Dec/15	Formatting changes. Updated call tree information. Added Revision Log. Updated Staging Area Captains, Alternates and responsibilities.	Ryan Fredrich
000-000-002	May 9, 2015	Updated call tree and emergency numbers information.	Ryan Fredrich, Sheldon Bailey
000-000-003	July 29, 2016	Formatting changes. Updated the violence verbiage. Added emergency evacuation map directly into Appendix 4. Added information on tornado shelter areas in Appendix 4. Added links to ERP Canada SharePoint site. Updated Utility Failure section. Added transportation in a minor injury/illness section. Updated emergency contact numbers.	Ryan Fredrich

		Updated Appendix 3. Updated Workplace Violence sections.	
000-000-004	1-Feb-17	Formatting changes. Updated emergency contact numbers. Updated/removed Appendices. Updated maps. Removed Appendices 2 and 3. Added Evacuation Checklist into Appendix 2.	Ryan Fredrich
000-000-005	12-Oct-17	Updated contact numbers. Removed contact numbers for Ryan Fredrich and added Andrew Fisher	David Stoesz

APPENDIX 1 - EMERGENCY CONTACT NUMBERS

EMERGENCY ACTIONS – In the event of an injury or other medical emergency:

- Call the 9 - 9 – 1 – 1 from any phone in the building;
- Notify your Supervisor and a First Aid Attendant(s)
- Identify the name of the person(s) needing medical attention;
- Your location: building, department, floor, office/room, or column location;
- Describe the situation:
 - What has happened
 - Type(s) of injuries
 - Help needed
- Obtain or provide on-site first-aid;
- Alert other workers that an emergency is occurring.

Contact	Location	Phone Number	Cell Number
Police	Local	9-9-1-1	
Ambulance	Local	9-9-1-1	
Fire	Local	9-9-1-1	
Hospital	Local	204-324-6411	
Workplace Safety & Health	Provincial	1-866-888-8186 After Hours 204-945-0581	
Environmental	Provincial	204-944-4888	
Spill Reporting	Provincial	204-944-4888	

Chain of Communication / Contact Information

Name	Number	Position
Gary Krahn	Work: 905-315-2026 Cell: 204-384-8621	Business Unit Manager (Special Situations Coordinator)
Chris Ficzero	Work: 905-945-7369 Cell: 905-979-2018	Canadian RDC Manager
Sheldon Bailey	Work: 905-315-2021 Cell: 204-362-1390	Human Resource Manager
Mark Bandy	Work: 309-756-1410 Cell: 309-314-4072	Safety Manager North American Parts Distribution Center
Karl Friesen	Work: 905-945-7403 Cell: 289-213-1053	Canadian Facilities Engineering Manager
Judith Gunn	Work: 905-945-7856 Cell: 905-977-9162	Canadian Regional EHS Manager
Andrew Fisher	Work: 905-945-7407 Cell: 289-219-0064	Unit EHS Professional
Jerrold Stoesz	Work: 905-315-2033	Maintenance / Safety Representative
David Stoesz	Work: 905-315-2024 Cell: 204-216-0389	Shipping Supervisor / Safety Designate
Dimitri Neufeld	Work: 905-315-2030 Home: 204-324-9621	Senior Product Engineer

Additional Numbers

Name	Number	Location
Enterprise Security Operations Center (ESOC) 24/7 call center	309-748-8888 1-866-748-8888	Corporate Offices
Corporate Communications Ken Golden – Director, Global Public Relations	Office: 1-309-765-5678 Home: 1-319-359-7931 Cell: 1-309-230-7626	Corporate Offices
Corporate Incident Support Team (CIST)	(309) 748-8888	Corporate Offices
Deere Direct Canada	1-800-519-7876	Canadian Corporate Office
Deere Legal (Gail McCombs)	905-945-7873	Canadian Corporate Office
CN Rail	1-800-465-9239	Emergency Number
Ministry of Transportation	204-239-3292	Region
Public Works	204-324-5357	Municipality of Rhineland
Gas/Power/Electric	1-888-624-9376	MB Hydro
3E – 24/7 Emergency Response for Transportation Incidents - Global Incident Response Line for Deere & Company	1-866-519-4752 Deere Access Code = 333049	

APPENDIX 2 – EMERGENCY RESPONSE STRUCTURE

Usually, our office operates Monday – Friday, 7:00 a.m. – 3:30 p.m.

The key positions to this Team will be under the general direction of:
Special Situations Coordinator / Business Unit Manager (Gary Krahn)

Backups may include:

1. Human Resources Manager – Sheldon Bailey
2. Shipping Supervisor – David Stoesz
3. Inventory Analyst – Kim Hildebrandt
4. Night Shift Supervisor – Supervisor in charge on night shift

KEY POSITIONS:

Special Situations Coordinator

- Conduct incident assessment and determine resources required;
- Compile information using “Emergency Evacuation Checklist”;
- Notify the Corporate Incident Support Team based on requirement;
- Liaison with Fire Department once they are on site / ensure that accurate head count is given. The Special Situations Coordinator must provide whatever assistance the Fire Department requires, including building keys and information regarding the building and equipment;
- Coordinating public communications with Corporate parties;
- Managing on-site recovery and ensuring adequacy of on-site response activities;
- Give “ALL CLEAR” signal at end of emergency;
- Restore normal operations;
- Write report at the end of emergency:
 - Time / date / crew involved / what happened / how handled;
- Attend / organize follow-up meeting.

Staging Area Captains

- Check their area of responsibility to ensure that it is clear and all workers have evacuated, and are accounted for;
- Provide accurate head count or “ALL CLEAR” to the Special Situations Coordinator through voice / radio / cell phone communication;
- Help to provide immediate emergency response;
- Will be responsible for maintaining tight security control and keeping everyone in the assembly location until the “ALL CLEAR” is given;

- Working under the direction of the Special Situations Coordinator, will assist in the evacuation assembly area until further help arrives;
- Assist any workers with a disability to ensure a safe and timely exit from the building.

Staging Area Captains and Alternates

Name	Area of Responsibility	Phone Available	Alternate
Richard Klassen	Chaffer Dept.	Extension 2035	Pete Sawatzky Jr.
Jim Sawatzky	General Production, Production Offices	Extension 2032	Kim Hildebrandt
Dimitri Neufeld	R&D Offices, 2 nd Floor Work Lunch/break room	Extension 2030	Andreas Harder
Robert Froese	Tool & Die, Paint Room	Radio	Jerrold Stoesz
Jerrold Stoesz	Maintenance, Cylinder Bars	Extension 2033	Robert Froese
David Stoesz	Shipping & Tent	Extension 2024	Darryl Klassen
Sheldon Bailey	Front Office Visitors, Contractors	Extension 2021 Cell – 204-362-1390	Lin Loewen

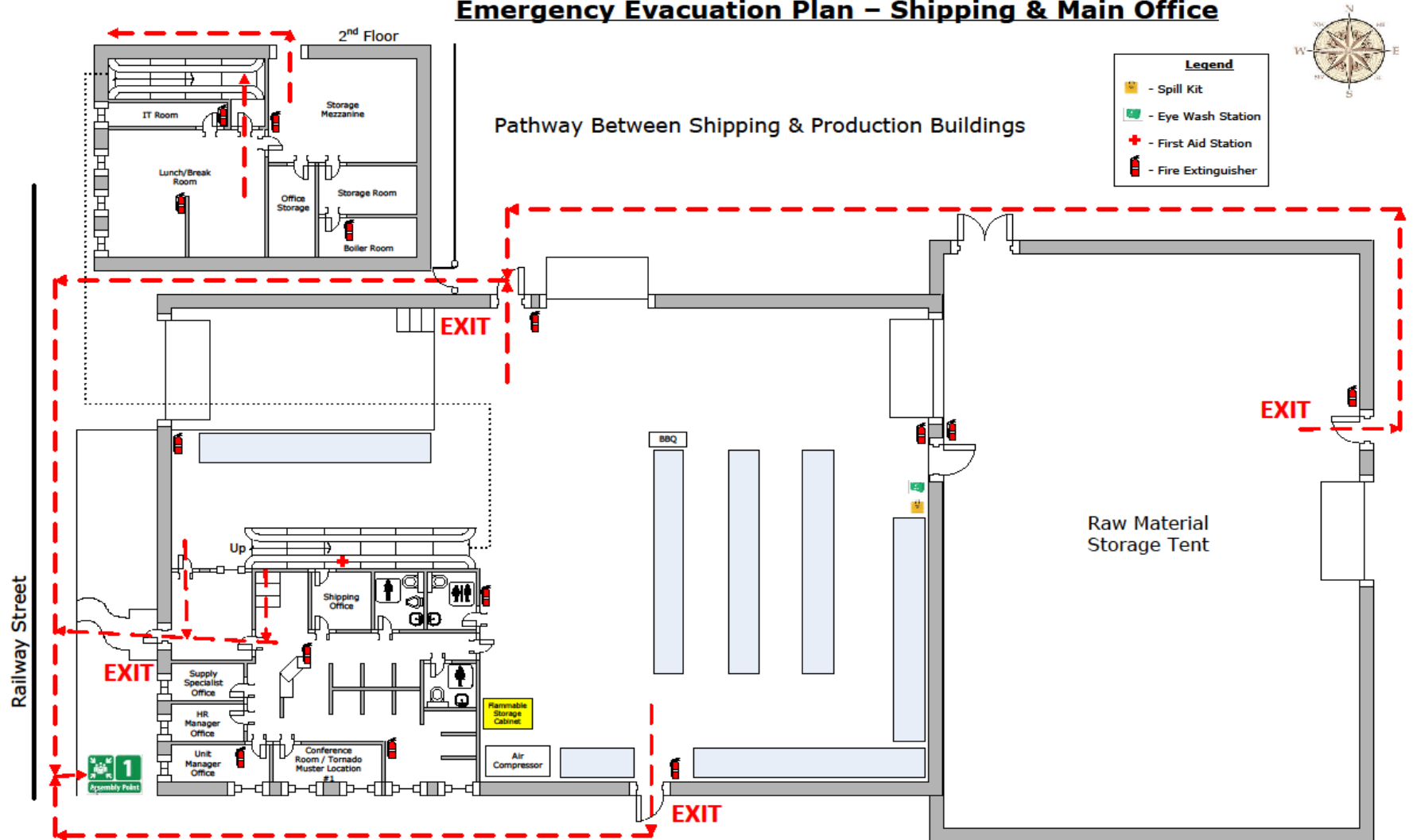
Key Staff Assignments [Security Person(s)]

Name	Area of Responsibility	Responsibility
Richard Klassen	Chaffer Dept.	All Chaffer and production areas to be cleared of all persons directed to exit and redirected to staging area; radio communication with other captains.
Jim Sawatzky	General Production, Production Offices	Areas to be cleared of all persons and to be taken out fire exit and directed to staging area; radio communication with other captains.
Dimitri Neufeld	R&D Offices, 2 nd Floor Work Lunch/break room	Upper drafting, lunch room and bathrooms to be cleared of all persons and to be taken out fire exit and directed to staging area; radio communication with other captains.
Robert Froese	Tool & Die, Paint Room	Areas to be cleared of all persons and to be taken out fire exit and directed to staging area; radio communication with other captains.







Jerrold Stoesz	Maintenance, Cylinder Bars	All Maintenance and Cylinder Bar production areas to be cleared of all persons; directed to exit and redirected to staging area; radio communication with other captains.
David Stoesz	Shipping & Tent	Areas to be cleared of all persons and to be taken out fire exit and directed to staging area; radio communication with other captains.
Sheldon Bailey	Front Office Visitors, Contractors	Areas to be cleared of all persons and to be taken out fire exit and directed to staging area; radio communication with other captains.
Gary Krahn	Entire Site	Communicate with all captains via radio; establish that everyone is accounted for and that the emergency professionals have been contacted; keep emergency routes clear.

EMERGENCY EQUIPMENT LOCATIONS, ESCAPE ROUTES AND FIRE EXITS

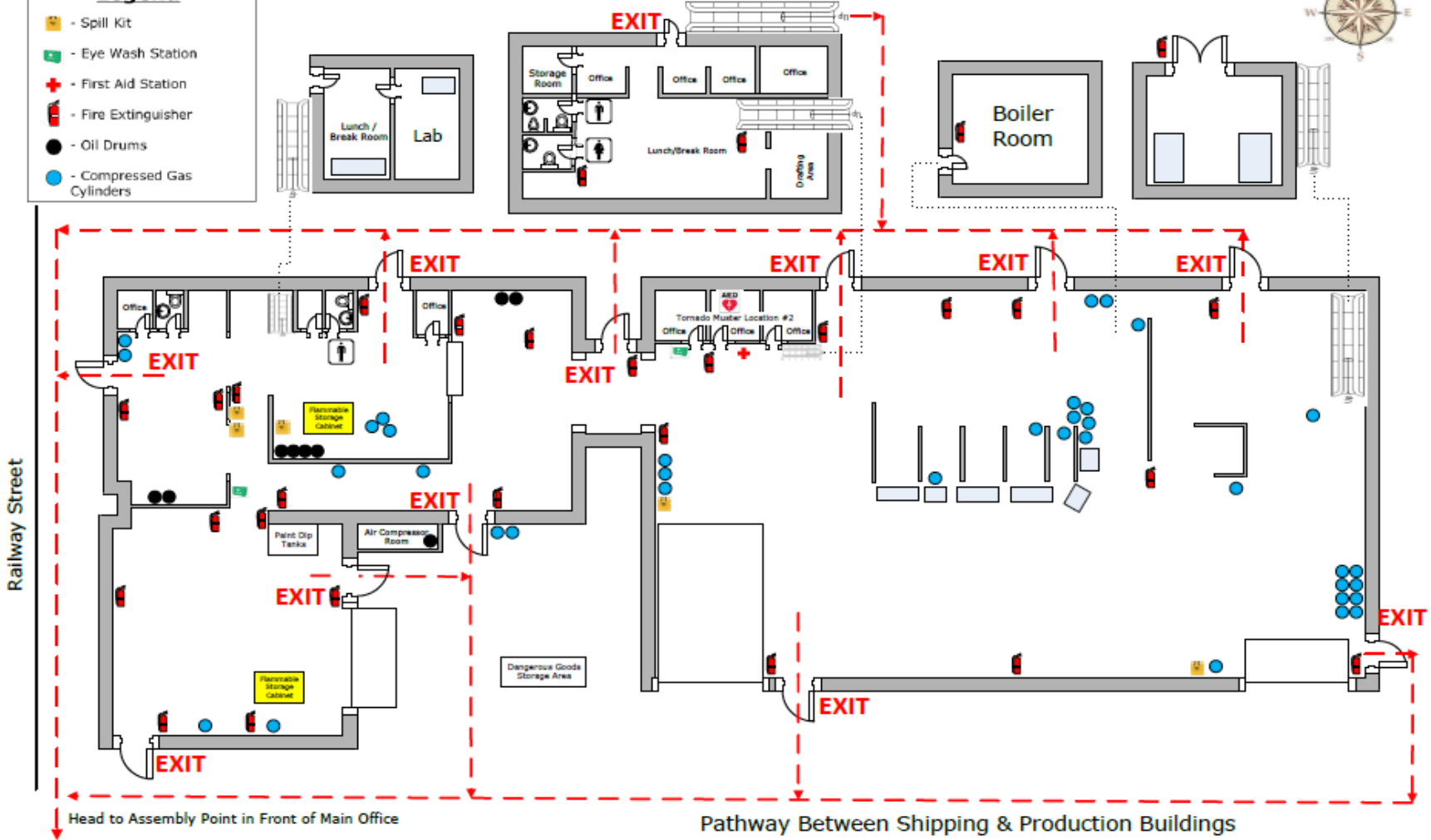
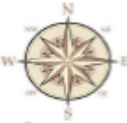
Emergency Evacuation Plan – Shipping & Main Office



Legend

-  - Spill Kit
-  - Eye Wash Station
-  - First Aid Station
-  - Fire Extinguisher
-  - Oil Drums
-  - Compressed Gas Cylinders

Emergency Evacuation Plan – Production Areas



ASSEMBLY AREA



Emergency Evacuation Checklist

Name: _____

Date: _____

Time Alarm Activated: _____

Time "All Clear" Communicated: _____

All Departments Accounted For: Yes / No

<i>NAME</i>	<i>AREA OF RESPONSIBILITY</i>	<i>PHONE AVAILABLE</i>	<i>ALTERNATE</i>	<i>ALL CLEAR YES / NO</i>
Richard Klassen	Chaffer Dept.	Yes	Pete Sawatzky Jr.	
Jim Sawatzky	General Production, Production Offices	Yes	Kim Hildebrandt	
Dimitri Neufeld	R&D Offices, 2 nd Floor Worker Lunch/break room	Yes	Andreas Harder	
Robert Froese	Tool & Die, Paint Room	No	Jerrold Stoesz	
Jerrold Stoesz	Maintenance, Cylinder Bars	Yes	Robert Froese	
David Stoesz	Shipping & Tent	Yes	Darryl Klassen	
Sheldon Bailey	Front Office Visitors / Contractors	Yes	Lin Loewen	

Assembly Area

All workers, visitors and contractors are to evacuate the building and meet at the designated Assembly Area:

- Railway Street (Each department has a specific section within the Assembly Area)
- Visitors and Contractors must evacuate to the Assembly Area on Railway Street

Note: In the case of dangerously cold temperatures, workers will be directed to an outbuilding with the clearance of the Fire Department. This is to be used only during inclement weather or when it has been deemed unsafe to remain on the property.

Communication

- The methods of communication used during an evacuation consist of word of mouth, internal phones, cell phones, radio, the facility PA system and megaphone. Megaphones are located at the Emergency Exits.

Evacuation Signal / Warning Signal

- The evacuation signal at this location is a MEGAPHONE "BULL HORN" along with the facilities PUBLIC ADDRESS SYSTEM. "Evacuate the building immediately – Report to the Assembly Area". The public address announcement will be made by the Special Situations Coordinator or one of the Staging Captains. The 6 "Megaphones" will be turned on by Staging Area Captains or Security Persons as they are exiting the building. All buildings must be evacuated immediately.

In the unlikely event of this signal failing the backup signal is **WORD OF MOUTH. Two-way radios and cellular phones may also be used in the event that the public address system and air horn are not functioning.**

In the case of Severe Weather or other "Warnings" the communication would be the public address system, internal phones, cell phones, two-way radios or word of mouth.

Tornado Muster Locations

1. **Special Situations Coordinator** will monitor approaching severe storm conditions including freezing rain, hail, heavy snow, sustained high winds, wind-chill conditions and tornadoes.
2. **Departmental Supervisors** will advise workers if the weather service issues a severe weather warning for the Manitoba area.
3. **Workers Should:**
 - Keep overhead, interior and exterior doors closed;
 - Stay away from windows;
 - If in the Shipping and Main Office areas, move to the **“Muster Location #1” Main Office Conference Room** if directed to do so by their Supervisor;
 - If in the Production areas, move to the **“Muster Location #2” Production Offices** if directed to do so by their Supervisor;
 - Take a battery-powered radio, a flashlight and cell phone to the shelter areas, if available;
 - Take a first aid kit and AED to the shelter areas, if available;
 - Remain in the location until an **“ALL CLEAR”** is given by the Special Situations Coordinator.

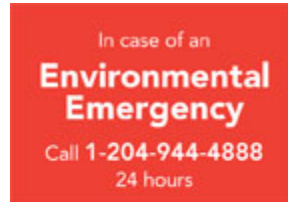
APPENDIX 3 – ENVIRONMENTAL REPORTING

In the event of a reportable spill, the Spills Action Centre must be contacted.

The Unit EHS Professional will determine if the spill should be reported and by whom.

Contact the Special Situations Coordinator who will ensure the Spills Action Centre is contacted. The Spills Action Centre operates 24-hours a day and can be reached through a province-wide toll-free number:

Manitoba Conservation Emergency Response Program



An environmental emergency is any release or imminent release of a contaminant that may pose a risk to public health or the environment.



When reporting an environmental emergency, please provide as much information as possible, including:

- Your name and phone number;
- Exact location of the emergency;
- Type of emergency (spill, leak, fire, overturn, derailment, etc.);
- Name and spelling of the product(s) involved, if known;
- Estimate of the amount of the product(s) (released or still in containment).

A member of our Environmental Emergency Response Team will contact you immediately with information about emergency procedures and the potential

dangers associated with the product(s) involved. On-site assistance will be provided as necessary.

3E Process for Emergency Calls

3E 24/7 Emergency Response Phone Number for Transportation Incidents

Global Incident Response Hotline for Deere & Company North America

1-866-519-4752

Deere & Company Access Code = **333049**

3E's Global Incident Response Hotline service will provide callers with basic emergency and incident response information including (M)SDS information distribution, poison and exposure assistance, referral information and internal Client incident notification. All calls into 3E's EH&S Mission Control Centre are responded to 24-7-365 by a live agent.

Appendix G

MSDS Documentation

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID: 71-X321A
Product Name: ALIPHATIC REDUCER
Product Use: None specified.
Effective date: 12/Dec/2014
Revision Date: 18/Nov/2013
UN ID Number (msds): UN1268
WHMIS Classification: D2B Toxic Material B2 Flammable Liquids

Company Identification

Valspar, Inc.
1915 Second Street West
Cornwall , Ontario K6H 5T1

Tech Info Phone: 1-613-932-8960

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation

Skin Contact:

- May cause defatting of the skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- May cause irritation of respiratory tract.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Liver injury may occur.

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name	CAS Number
NAPHTHA 64742-89-8	95 - 100	SOLVENT NAPHTHA, PETROLEUM, LIGHT ALIPH	64742-89-8

If this section is blank there are no hazardous components per WHMIS guidelines.

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

4. FIRST AID MEASURES

Eye Contact:

Get medical attention, if symptoms develop or persist. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyes wide apart.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move to fresh air. Get medical attention, if symptoms develop or persist.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	52
Flash point (Celsius):	11
Lower explosive limit (%):	1
Upper explosive limit (%):	6
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

None known.

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES**Action to be taken if material is released or spilled:**

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE**Precautions to be taken in handling and storage:**

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS**Personal Protective Equipment****Eye and face protection:**

Wear safety glasses or goggles to protect against exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

Usual industrial work clothes.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Ensure adequate ventilation, especially in confined areas. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines**OSHA Permissible Exposure Limits (PEL's)****ACGIH Threshold Limit Value (TLV's)****9. PHYSICAL PROPERTIES**

Odor:

Normal for this product type.

Physical State:

liquid

9. PHYSICAL PROPERTIES

pH:	not determined
Vapor pressure:	103 mmHg @ 100°F (37.78°C)
Vapor density (air = 1.0):	3.6
Boiling point:	245°F (118°C)
Solubility in water:	Negligible (less than 0.1%)
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	6.25
Specific Gravity:	0.75
Evaporation rate (butyl acetate = 1.0):	1.4
Flash point (Fahrenheit):	52
Flash point (Celsius):	11
Lower explosive limit (%):	1
Upper explosive limit (%):	6
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
NAPHTHA 64742-89-8	95 - 100	= 3000 mg/kg Dermal LD50 Rabbit = 5000 mg/kg Oral LD50 Mouse

Mutagens/Teratogens/Carcinogens: None known.

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Dispose of waste at an approved hazardous waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

Canadian Transport of Dangerous Goods

UN ID Number (msds):	UN1268
Proper Shipping Name:	PETROLEUM DISTILLATES NOS
Hazardous Ingredient (Land) 1:	NAPHTHA, SOLVENT
Hazard Class:	3
Packing Group:	II

TDG Clear Language Exceptions:

For Dangerous Goods, the supplier may apply one of the following exceptions (TDG Reference): Limited quantity/Consumer Commodity (1.17), Does not sustain combustion, etc. (2.18), Viscous liquid (2.19), Flammable liquid General Exemption (1.33) or US DOT Reciprocity (9.1,3 & 4). Please consult current TDG regulations before applying any of these exceptions to subsequent shipments.

International Air Transport Association (IATA):

Proper shipping name: Contact Supplier

International Maritime Organization (IMO):

Proper shipping name: Contact Supplier
IMDG N.O.S. Technical Name 1: NAPHTHA, SOLVENT

Marine Pollutant No

15. REGULATORY INFORMATION**INTERNATIONAL REGULATIONS - Chemical Inventories****Canada Domestic Substances List:**

All components of this product are listed on the Domestic Substances List.

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada National Pollutant Release Inventory:

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
NAPHTHA 64742-89-8	95 - 100	Part 5 Substance

16. OTHER INFORMATION**HMIS Codes**

Health: 2
Flammability: 3
Reactivity: 0
PPE: X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By: Regulatory Affairs Department
Print date: 12/Dec/2014
Revision Date: 18/Nov/2013

Technical Information:

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440
Tech Info Phone: 1-613-932-8960

**24-Hour Medical Emergency
Phone:** 1-888-345-5732



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID: 5430G90020
Product Name: JD F9A PHTHALO GREEN L/C FREE ENAMEL
Product Use: Paint or Coatings Related Product
Print date: 22/Apr/2014
Revision Date: 22/Apr/2014

Company Identification

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

Manufacturer's Phone: 1-612-851-7000

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- May cause defatting of the skin.
- Dermatitis
- Can be absorbed through skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.

- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.
- May cause bronchopneumonia or bronchitis.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Contains glycol ether which has been shown to cause blood effects damage in laboratory animals.
- Liver injury may occur.
- Risk of serious damage to the lungs (by inhalation).
- Unconsciousness
- Blood disorders

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Teratogens:

- May cause birth defects.
- Female reproductive toxin.

Carcinogens:

- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name
NAPHTHA 64742-88-7	20 - 25	SOLVENT NAPHTHA, PETROLEUM, MEDIUM ALIPH
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Petroleum naphtha, light aromatic
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	1,2,4-Trimethylbenzene
BUTYL ACETATE 123-86-4	1 - 5	n-Butyl acetate
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	Ethylene glycol, monobutyl ether acetate
ETHYL 3- ETHOXYPROPIONATE 763-69-9	1 - 5	Ethyl 3-ethoxypropionate
TOLUENE 108-88-3	1 - 5	Toluene
PROPRIETARY COLOR PIGMENT	1 - 5	PROPRIETARY COLOR PIGMENT
TITANIUM DIOXIDE 13463-67-7	1 - 5	Titanium dioxide

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

CUMENE 98-82-8	.1 - 1	Cumene
ETHYLBENZENE 100-41-4	.1 - 1	Ethyl benzene

If this section is blank there are no hazardous components per OSHA guidelines.

4. FIRST AID MEASURES

Eye Contact:

Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	95
Flash point (Celsius):	35
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

Contaminated rags, wipes, saw dust, etc., may catch fire spontaneously. Store waste under water in closed metal containers or in approved self-closing containers designed to prevent spontaneous combustion until disposed of in compliance with applicable regulations. Oxidizing Material

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:

Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
BUTYL ACETATE 123-86-4	1 - 5	150 ppm TWA 710 mg/m ³ TWA		
TOLUENE 108-88-3	1 - 5	200 ppm TWA	= 300 ppm Ceiling	
TITANIUM DIOXIDE 13463-67-7	1 - 5	15 mg/m ³ TWA dust total		
CUMENE 98-82-8	.1 - 1	245 mg/m ³ TWA 50 ppm TWA		prevent or reduce skin absorption

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA 435 mg/m ³ TWA		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	25 PPM			
BUTYL ACETATE 123-86-4	1 - 5	150 ppm TWA	200 ppm STEL		
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	20 ppm TWA			
TOLUENE 108-88-3	1 - 5	20 ppm TWA			Can be absorbed through the skin.
PROPRIETARY COLOR PIGMENT	1 - 5	1 mg/m ³ TWA Cu dust and mist			
TITANIUM DIOXIDE 13463-67-7	1 - 5	10 mg/m ³ TWA			
CUMENE 98-82-8	.1 - 1	50 ppm TWA			
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA	125 ppm STEL		

9. PHYSICAL PROPERTIES

Odor:	Normal for this product type.
Physical State:	liquid
pH:	not determined
Vapor pressure:	22.556391 mmHg @ 68°F (20°C)
Vapor density (air = 1.0):	5.5
Boiling point:	230.72°F (110°C)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	8.23
Specific Gravity:	.99
Evaporation rate (butyl acetate = 1.0):	2.24
Flash point (Fahrenheit):	95
Flash point (Celsius):	35
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide. Metal oxide fumes.

10. STABILITY AND REACTIVITY

Sensitivity to static discharge:

Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
NAPHTHA 64742-88-7	20 - 25	= 3000 mg/kg Dermal LD50 Rabbit > 5.28 mg/L Inhalation LC50 Rat 4 h > 5000 mg/kg Oral LD50 Rat
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	= 3400 ppm Inhalation LC50 Rat 4 h = 8400 mg/kg Oral LD50 Rat > 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	= 18 g/m ³ Inhalation LC50 Rat 4 h = 3400 mg/kg Oral LD50 Rat > 3160 mg/kg Dermal LD50 Rabbit
BUTYL ACETATE 123-86-4	1 - 5	= 10768 mg/kg Oral LD50 Rat = 390 ppm Inhalation LC50 Rat 4 h > 17600 mg/kg Dermal LD50 Rabbit
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	= 1480 mg/kg Dermal LD50 Rabbit = 1600 mg/kg Oral LD50 Rat
ETHYL 3- ETHOXYPROPIONATE 763-69-9	1 - 5	= 10 mL/kg Dermal LD50 Rabbit = 3200 mg/kg Oral LD50 Rat
TOLUENE 108-88-3	1 - 5	= 12.5 mg/L Inhalation LC50 Rat 4 h = 12124 mg/kg Dermal LD50 Rat = 636 mg/kg Oral LD50 Rat = 8390 mg/kg Dermal LD50 Rabbit > 26700 ppm Inhalation LC50 Rat 1 h
PROPRIETARY COLOR PIGMENT	1 - 5	> 3000 mg/kg Oral LD50 Rat
TITANIUM DIOXIDE 13463-67-7	1 - 5	> 10000 mg/kg Oral LD50 Rat
CUMENE 98-82-8	.1 - 1	= 1400 mg/kg Oral LD50 Rat = 39000 mg/m ³ Inhalation LC50 Rat 4 h > 3160 mg/kg Dermal LD50 Rabbit
ETHYLBENZENE 100-41-4	.1 - 1	= 15354 mg/kg Dermal LD50 Rabbit = 17.2 mg/L Inhalation LC50 Rat 4 h = 3500 mg/kg Oral LD50 Rat

Mutagens/Teratogens/Carcinogens:

May cause birth defects. Female reproductive toxin.

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains ethylbenzene, which has been determined by NTP to be an animal carcinogen with no known relevance to humans. IARC has classified ethylbenzene as possibly carcinogenic to humans (2b) on the basis of sufficient evidence of carcinogenicity in laboratory animals but inadequate evidence of cancer in humans. Contains TIO₂ which is listed by IARC as a possible human carcinogen (Group 2B) based on animal data. Neither long term animal studies, nor human epidemiology studies of workers exposed to TIO₂ provide an adequate basis to conclude TIO₂ is carcinogenic. TIO₂ is not classified as a carcinogen by NTP, U.S. OSHA, or the U.S. EPA.

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Developmental Toxicity	California Prop 65 - Reproductive (Male)
TOLUENE 108-88-3	1 - 5	Listed. initial date 1/1/91 - developmental toxicity	

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
TOLUENE 108-88-3	1 - 5	Listed. Initial date 8/1/09 - female reproductive toxicity	
CUMENE 98-82-8	.1 - 1		carcinogen, initial date 4/6/10
ETHYLBENZENE 100-41-4	.1 - 1		Listed. initial date 6/11/04 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
TITANIUM DIOXIDE 13463-67-7	1 - 5			Monograph 47 [1989]
CUMENE 98-82-8	.1 - 1			Monograph 101 [in preparation]
ETHYLBENZENE 100-41-4	.1 - 1			Monograph 77 [2000]

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5			A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans
TITANIUM DIOXIDE 13463-67-7	1 - 5	Present		
ETHYLBENZENE 100-41-4	.1 - 1	Present		A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation

UN ID Number (msds):	UN1263
Proper Shipping Name:	PAINT
Hazard Class:	3
Packing Group:	III

14. TRANSPORTATION INFORMATION

U.S Hazmat and/or International DG shipment exceptions

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Reportable Quantity Description:

International Air Transport Association (IATA):

UN/ID No: UN1263
Proper shipping name: Paint
Hazard Class: 3
Packing Group: III

International Maritime Organization (IMO):

UN/ID No: UN1263
Proper shipping name: PAINT
Hazard Class: 3
Packing Group: III
Marine Pollutant: YES
Marine Pollutant Ingredient 1: NAPHTHA
Marine Pollutant Ingredient 2: AROMATIC NAPHTHA, LIGHT

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

Ingredient Name CAS-No.	Approx. Weight %	SARA 302	SARA 313	CERCLA RQ in lbs.
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10		Listed.	
BUTYL ACETATE 123-86-4	1 - 5			5000
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5		YES	
TOLUENE 108-88-3	1 - 5		form R reporting required for 1.0% de minimis concentration	1000
CUMENE 98-82-8	.1 - 1		form R reporting required for 1.0% de minimis concentration	5000
ETHYLBENZENE 100-41-4	.1 - 1		form R reporting required for 1.0% de minimis concentration	1000

SARA 311/312 Hazard Class:

Acute: yes
Chronic: yes
Flammability: yes
Reactivity: no
Sudden Pressure: no

U.S. STATE REGULATIONS:

Right to Know:

The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

Pennsylvania Right To Know:

PROPRIETARY COLOR PIGMENT		Trade Secret
NAPHTHA	64742-88-7	
ETHYL 3-ETHOXYPROPIONATE		763-69-9
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE		112-07-2
TITANIUM DIOXIDE	13463-67-7	
BUTYL ACETATE	123-86-4	
TOLUENE	108-88-3	
AROMATIC NAPHTHA, LIGHT		64742-95-6
1,2,4-TRIMETHYLBENZENE		95-63-6

Additional Non-Hazardous Materials

PROPRIETARY COLOR PIGMENT	Trade Secret
PROPRIETARY RESIN	Trade Secret
PROPRIETARY RESIN	Trade Secret

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Rule 66 status of product Photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:

All components of this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMIS Codes

Health:	2*
Flammability:	3
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPDCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By:	Regulatory Affairs Department
Print date:	22/Apr/2014
Revision Date:	22/Apr/2014



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID:	AHA0047
Product Name:	DURASPAR 440 F9T BLACK DIP ENAMEL
Product Use:	Paint or Coatings Related Product
Effective date:	23/Jan/2014
Revision Date:	23/Jan/2014
UN ID Number (msds):	UN1263
WHMIS Classification:	D2B Toxic Material D2A Very Toxic Material B2 Flammable Liquids

Company Identification

Valspar, Inc.
1915 Second Street West
Cornwall , Ontario K6H 5T1

Tech Info Phone: 1-613-932-8960

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- May cause defatting of the skin.
- Dermatitis
- Can be absorbed through skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.
- May cause bronchopneumonia or bronchitis.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Liver injury may occur.
- Unconsciousness
- Blood disorders
- Risk of serious damage to the lungs (by inhalation).

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- Prolonged exposure over TLV may produce pneumoconiosis.

Carcinogens:

- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name	CAS Number
LIMESTONE 1317-65-3	20 - 25	Limestone	1317-65-3
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Petroleum naphtha, light aromatic	64742-95-6
BUTYL ACETATE 123-86-4	5 - 10	n-Butyl acetate	123-86-4
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	1,2,4-Trimethylbenzene	95-63-6
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	Solvent naphtha, petroleum, heavy arom.	64742-94-5
TALC 14807-96-6	1 - 5	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6
ZINC OXIDE 1314-13-2	1 - 5	ZINC OXIDE	1314-13-2
XYLENE 1330-20-7	1 - 5	Xylenes (o-, m-, p- isomers)	1330-20-7
NAPHTHALENE 91-20-3	.1 - 1	Naphthalene	91-20-3
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	Carbon black	1333-86-4

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

CUMENE 98-82-8	.1 - 1	Cumene	98-82-8
ETHYLBENZENE 100-41-4	.1 - 1	Ethyl benzene	100-41-4

If this section is blank there are no hazardous components per WHMIS guidelines.

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

4. FIRST AID MEASURES

Eye Contact:

Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	88
Flash point (Celsius):	31
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

Contaminated rags, wipes, saw dust, etc., may catch fire spontaneously. Store waste under water in closed metal containers or in approved self-closing containers designed to prevent spontaneous combustion until disposed of in compliance with applicable regulations. Oxidizing Material

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:

Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
LIMESTONE 1317-65-3	20 - 25	15 mg/m ³ TWA dust total 5 mg/m ³ TWA respirable fraction		
BUTYL ACETATE 123-86-4	5 - 10	150 ppm TWA 710 mg/m ³ TWA		
TALC 14807-96-6	1 - 5	Respirable. Listed. Total dust. Listed.		

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
ZINC OXIDE 1314-13-2	1 - 5	15 mg/m ³ TWA dust total 5 mg/m ³ TWA fume 5 mg/m ³ TWA respirable fraction		
XYLENE 1330-20-7	1 - 5	100 ppm TWA 435 mg/m ³ TWA		
NAPHTHALENE 91-20-3	.1 - 1	10 ppm TWA 50 mg/m ³ TWA		
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	3.5 mg/m ³ TWA		
CUMENE 98-82-8	.1 - 1	245 mg/m ³ TWA 50 ppm TWA		prevent or reduce skin absorption
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA 435 mg/m ³ TWA		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
LIMESTONE 1317-65-3	20 - 25	10 mg/m ³ Inhalable particles. 3 mg/m ³ Respirable particles.			
BUTYL ACETATE 123-86-4	5 - 10	150 ppm TWA	200 ppm STEL		
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	25 PPM			
TALC 14807-96-6	1 - 5	2 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica, respirable fraction			
ZINC OXIDE 1314-13-2	1 - 5	2 mg/m ³ TWA respirable fraction	10 mg/m ³ STEL respirable fraction		
XYLENE 1330-20-7	1 - 5	100 ppm TWA	150 ppm STEL		
NAPHTHALENE 91-20-3	.1 - 1	10 ppm TWA	15 ppm STEL		CAN BE ABSORBED THROUGH THE SKIN
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	3.5 mg/m ³ TWA			
CUMENE 98-82-8	.1 - 1	50 ppm TWA			
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA	125 ppm STEL		

9. PHYSICAL PROPERTIES

Odor:

Normal for this product type.

9. PHYSICAL PROPERTIES

Physical State:	liquid
pH:	not determined
Vapor pressure:	11 mmHg @ 77°F (25°C)
Vapor density (air = 1.0):	4.7
Boiling point:	258.98°F (126°C)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	11.14
Specific Gravity:	1.34
Evaporation rate (butyl acetate = 1.0):	1
Flash point (Fahrenheit):	88
Flash point (Celsius):	31
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	= 3400 ppm Inhalation LC50 Rat 4 h = 8400 mg/kg Oral LD50 Rat > 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h
BUTYL ACETATE 123-86-4	5 - 10	= 10768 mg/kg Oral LD50 Rat = 390 ppm Inhalation LC50 Rat 4 h > 17600 mg/kg Dermal LD50 Rabbit
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	= 18 g/m ³ Inhalation LC50 Rat 4 h = 3400 mg/kg Oral LD50 Rat > 3160 mg/kg Dermal LD50 Rabbit
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	> 2000 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat > 590 mg/m ³ Inhalation LC50 Rat 4 h
ZINC OXIDE 1314-13-2	1 - 5	> 5000 mg/kg Oral LD50 Rat
XYLENE 1330-20-7	1 - 5	= 4300 mg/kg Oral LD50 Rat = 47635 mg/L Inhalation LC50 Rat 4 h = 5000 ppm Inhalation LC50 Rat 4 h > 1700 mg/kg Dermal LD50 Rabbit
NAPHTHALENE 91-20-3	.1 - 1	= 490 mg/kg Oral LD50 Rat > 20 g/kg Dermal LD50 Rabbit > 2500 mg/kg Dermal LD50 Rat > 340 mg/m ³ Inhalation LC50 Rat 1 h
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	> 15400 mg/kg Oral LD50 Rat > 3 g/kg Dermal LD50 Rabbit

11. TOXICOLOGICAL INFORMATION

CUMENE 98-82-8	.1 - 1	= 1400 mg/kg Oral LD50 Rat = 39000 mg/m ³ Inhalation LC50 Rat 4 h > 3160 mg/kg Dermal LD50 Rabbit
ETHYLBENZENE 100-41-4	.1 - 1	= 15354 mg/kg Dermal LD50 Rabbit = 17.2 mg/L Inhalation LC50 Rat 4 h = 3500 mg/kg Oral LD50 Rat

Mutagens/Teratogens/Carcinogens:

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains ethylbenzene, which has been determined by NTP to be an animal carcinogen with no known relevance to humans. IARC has classified ethylbenzene as possibly carcinogenic to humans (2b) on the basis of sufficient evidence of carcinogenicity in laboratory animals but inadequate evidence of cancer in humans. IARC has classified carbon black as possibly carcinogenic to humans (Group 2B).

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
NAPHTHALENE 91-20-3	.1 - 1		Listed. initial date 4/19/02 - carcinogen
CUMENE 98-82-8	.1 - 1		carcinogen, initial date 4/6/10
ETHYLBENZENE 100-41-4	.1 - 1		Listed. initial date 6/11/04 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
NAPHTHALENE 91-20-3	.1 - 1			Monograph 82 [2002]
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1			Monograph 65 [1996]
CUMENE 98-82-8	.1 - 1			Monograph 101 [in preparation]
ETHYLBENZENE 100-41-4	.1 - 1			Monograph 77 [2000]

Ingredient Name CAS-No.	Approx. Weight %	NTP Known Carcinogens	NTP Suspect Carcinogens
NAPHTHALENE 91-20-3	.1 - 1		Reasonably Anticipated To Be A Human Carcinogen

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
NAPHTHALENE 91-20-3	.1 - 1	Present		
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	Present		
ETHYLBENZENE 100-41-4	.1 - 1	Present		A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Dispose of waste at an approved hazardous waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

Canadian Transport of Dangerous Goods

UN ID Number (msds): UN1263
Proper Shipping Name: PAINT
Hazard Class: 3
Packing Group: III

TDG Clear Language Exceptions:

For Dangerous Goods, the supplier may apply one of the following exceptions (TDG Reference): Limited quantity/Consumer Commodity (1.17), Does not sustain combustion, etc. (2.18), Viscous liquid (2.19), Flammable liquid General Exemption (1.33) or US DOT Reciprocity (9.1,3 & 4). Please consult current TDG regulations before applying any of these exceptions to subsequent shipments.

International Air Transport Association (IATA):

UN/ID No: UN1263
Proper shipping name: Paint
Hazard Class: 3
Packing Group: III

International Maritime Organization (IMO):

UN/ID No: UN1263
Proper shipping name: PAINT
Hazard Class: 3
Packing Group: III

Marine Pollutant YES
Marine Pollutant Ingredient 1 ZINC OXIDE
Marine Pollutant Ingredient 2 AROMATIC NAPHTHA, LIGHT

15. REGULATORY INFORMATION

INTERNATIONAL REGULATIONS - Chemical Inventories

Canada Domestic Substances List:

All components of this product are listed on the Domestic Substances List.

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada National Pollutant Release Inventory:

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Part 5 Substance
BUTYL ACETATE 123-86-4	5 - 10	Part 5 Substance

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	Part 1, Group 1 Substance Part 5 Substance Part 1, Group 1 Substance
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	Part 5 Substance
ZINC OXIDE 1314-13-2	1 - 5	Part 1, Group 1 Substance
XYLENE 1330-20-7	1 - 5	Part 1, Group 1 Substance Part 5 Substance Part 1, Group 1 Substance
NAPHTHALENE 91-20-3	.1 - 1	Part 1, Group 1 Substance
CUMENE 98-82-8	.1 - 1	Part 1, Group 1 Substance
ETHYLBENZENE 100-41-4	.1 - 1	Part 1, Group 1 Substance

16. OTHER INFORMATION

HMIS Codes

Health: 2*
Flammability: 3
Reactivity: 1
PPE: X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By: Regulatory Affairs Department
 Print date: 23/Jan/2014
 Revision Date: 23/Jan/2014

Technical Information:

The Valspar Corporation
 PO Box 1461
 Minneapolis, MN 55440

Tech Info Phone: 1-613-932-8960

**24-Hour Medical Emergency
Phone:** 1-888-345-5732

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID: 71-X321A
Product Name: ALIPHATIC REDUCER
Product Use: None specified.
Effective date: 12/Dec/2014
Revision Date: 18/Nov/2013
UN ID Number (msds): UN1268
WHMIS Classification: D2B Toxic Material B2 Flammable Liquids

Company Identification

Valspar, Inc.
1915 Second Street West
Cornwall , Ontario K6H 5T1

Tech Info Phone: 1-613-932-8960

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation

Skin Contact:

- May cause defatting of the skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- May cause irritation of respiratory tract.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Liver injury may occur.

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name	CAS Number
NAPHTHA 64742-89-8	95 - 100	SOLVENT NAPHTHA, PETROLEUM, LIGHT ALIPH	64742-89-8

If this section is blank there are no hazardous components per WHMIS guidelines.

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

4. FIRST AID MEASURES

Eye Contact:

Get medical attention, if symptoms develop or persist. Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyes wide apart.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move to fresh air. Get medical attention, if symptoms develop or persist.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	52
Flash point (Celsius):	11
Lower explosive limit (%):	1
Upper explosive limit (%):	6
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

None known.

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES**Action to be taken if material is released or spilled:**

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE**Precautions to be taken in handling and storage:**

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS**Personal Protective Equipment****Eye and face protection:**

Wear safety glasses or goggles to protect against exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

Usual industrial work clothes.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Ensure adequate ventilation, especially in confined areas. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines**OSHA Permissible Exposure Limits (PEL's)****ACGIH Threshold Limit Value (TLV's)****9. PHYSICAL PROPERTIES**

Odor:

Normal for this product type.

Physical State:

liquid

9. PHYSICAL PROPERTIES

pH:	not determined
Vapor pressure:	103 mmHg @ 100°F (37.78°C)
Vapor density (air = 1.0):	3.6
Boiling point:	245°F (118°C)
Solubility in water:	Negligible (less than 0.1%)
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	6.25
Specific Gravity:	0.75
Evaporation rate (butyl acetate = 1.0):	1.4
Flash point (Fahrenheit):	52
Flash point (Celsius):	11
Lower explosive limit (%):	1
Upper explosive limit (%):	6
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
NAPHTHA 64742-89-8	95 - 100	= 3000 mg/kg Dermal LD50 Rabbit = 5000 mg/kg Oral LD50 Mouse

Mutagens/Teratogens/Carcinogens: None known.

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Dispose of waste at an approved hazardous waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

Canadian Transport of Dangerous Goods

UN ID Number (msds):	UN1268
Proper Shipping Name:	PETROLEUM DISTILLATES NOS
Hazardous Ingredient (Land) 1:	NAPHTHA, SOLVENT
Hazard Class:	3
Packing Group:	II

TDG Clear Language Exceptions:

For Dangerous Goods, the supplier may apply one of the following exceptions (TDG Reference): Limited quantity/Consumer Commodity (1.17), Does not sustain combustion, etc. (2.18), Viscous liquid (2.19), Flammable liquid General Exemption (1.33) or US DOT Reciprocity (9.1,3 & 4). Please consult current TDG regulations before applying any of these exceptions to subsequent shipments.

International Air Transport Association (IATA):

Proper shipping name: Contact Supplier

International Maritime Organization (IMO):

Proper shipping name: Contact Supplier
IMDG N.O.S. Technical Name 1: NAPHTHA, SOLVENT

Marine Pollutant No

15. REGULATORY INFORMATION**INTERNATIONAL REGULATIONS - Chemical Inventories****Canada Domestic Substances List:**

All components of this product are listed on the Domestic Substances List.

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada National Pollutant Release Inventory:

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
NAPHTHA 64742-89-8	95 - 100	Part 5 Substance

16. OTHER INFORMATION**HMIS Codes**

Health: 2
Flammability: 3
Reactivity: 0
PPE: X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By: Regulatory Affairs Department
Print date: 12/Dec/2014
Revision Date: 18/Nov/2013

Technical Information:

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440
Tech Info Phone: 1-613-932-8960

**24-Hour Medical Emergency
Phone:** 1-888-345-5732



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID:	AHA0047
Product Name:	DURASPAR 440 F9T BLACK DIP ENAMEL
Product Use:	Paint or Coatings Related Product
Effective date:	23/Jan/2014
Revision Date:	23/Jan/2014
UN ID Number (msds):	UN1263
WHMIS Classification:	D2B Toxic Material D2A Very Toxic Material B2 Flammable Liquids

Company Identification

Valspar, Inc.
1915 Second Street West
Cornwall , Ontario K6H 5T1

Tech Info Phone: 1-613-932-8960

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- May cause defatting of the skin.
- Dermatitis
- Can be absorbed through skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.
- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.
- May cause bronchopneumonia or bronchitis.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Liver injury may occur.
- Unconsciousness
- Blood disorders
- Risk of serious damage to the lungs (by inhalation).

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
- Prolonged exposure over TLV may produce pneumoconiosis.

Carcinogens:

- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name	CAS Number
LIMESTONE 1317-65-3	20 - 25	Limestone	1317-65-3
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Petroleum naphtha, light aromatic	64742-95-6
BUTYL ACETATE 123-86-4	5 - 10	n-Butyl acetate	123-86-4
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	1,2,4-Trimethylbenzene	95-63-6
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	Solvent naphtha, petroleum, heavy arom.	64742-94-5
TALC 14807-96-6	1 - 5	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6
ZINC OXIDE 1314-13-2	1 - 5	ZINC OXIDE	1314-13-2
XYLENE 1330-20-7	1 - 5	Xylenes (o-, m-, p- isomers)	1330-20-7
NAPHTHALENE 91-20-3	.1 - 1	Naphthalene	91-20-3
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	Carbon black	1333-86-4

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

CUMENE 98-82-8	.1 - 1	Cumene	98-82-8
ETHYLBENZENE 100-41-4	.1 - 1	Ethyl benzene	100-41-4

If this section is blank there are no hazardous components per WHMIS guidelines.

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

4. FIRST AID MEASURES

Eye Contact:

Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	88
Flash point (Celsius):	31
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

Contaminated rags, wipes, saw dust, etc., may catch fire spontaneously. Store waste under water in closed metal containers or in approved self-closing containers designed to prevent spontaneous combustion until disposed of in compliance with applicable regulations. Oxidizing Material

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:

Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
LIMESTONE 1317-65-3	20 - 25	15 mg/m ³ TWA dust total 5 mg/m ³ TWA respirable fraction		
BUTYL ACETATE 123-86-4	5 - 10	150 ppm TWA 710 mg/m ³ TWA		
TALC 14807-96-6	1 - 5	Respirable. Listed. Total dust. Listed.		

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
ZINC OXIDE 1314-13-2	1 - 5	15 mg/m ³ TWA dust total 5 mg/m ³ TWA fume 5 mg/m ³ TWA respirable fraction		
XYLENE 1330-20-7	1 - 5	100 ppm TWA 435 mg/m ³ TWA		
NAPHTHALENE 91-20-3	.1 - 1	10 ppm TWA 50 mg/m ³ TWA		
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	3.5 mg/m ³ TWA		
CUMENE 98-82-8	.1 - 1	245 mg/m ³ TWA 50 ppm TWA		prevent or reduce skin absorption
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA 435 mg/m ³ TWA		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
LIMESTONE 1317-65-3	20 - 25	10 mg/m ³ Inhalable particles. 3 mg/m ³ Respirable particles.			
BUTYL ACETATE 123-86-4	5 - 10	150 ppm TWA	200 ppm STEL		
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	25 PPM			
TALC 14807-96-6	1 - 5	2 mg/m ³ TWA particulate matter containing no asbestos and <1% crystalline silica, respirable fraction			
ZINC OXIDE 1314-13-2	1 - 5	2 mg/m ³ TWA respirable fraction	10 mg/m ³ STEL respirable fraction		
XYLENE 1330-20-7	1 - 5	100 ppm TWA	150 ppm STEL		
NAPHTHALENE 91-20-3	.1 - 1	10 ppm TWA	15 ppm STEL		CAN BE ABSORBED THROUGH THE SKIN
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	3.5 mg/m ³ TWA			
CUMENE 98-82-8	.1 - 1	50 ppm TWA			
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA	125 ppm STEL		

9. PHYSICAL PROPERTIES

Odor:

Normal for this product type.

9. PHYSICAL PROPERTIES

Physical State:	liquid
pH:	not determined
Vapor pressure:	11 mmHg @ 77°F (25°C)
Vapor density (air = 1.0):	4.7
Boiling point:	258.98°F (126°C)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	11.14
Specific Gravity:	1.34
Evaporation rate (butyl acetate = 1.0):	1
Flash point (Fahrenheit):	88
Flash point (Celsius):	31
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide.

Sensitivity to static discharge: Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	= 3400 ppm Inhalation LC50 Rat 4 h = 8400 mg/kg Oral LD50 Rat > 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h
BUTYL ACETATE 123-86-4	5 - 10	= 10768 mg/kg Oral LD50 Rat = 390 ppm Inhalation LC50 Rat 4 h > 17600 mg/kg Dermal LD50 Rabbit
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	= 18 g/m ³ Inhalation LC50 Rat 4 h = 3400 mg/kg Oral LD50 Rat > 3160 mg/kg Dermal LD50 Rabbit
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	> 2000 mg/kg Dermal LD50 Rabbit > 5000 mg/kg Oral LD50 Rat > 590 mg/m ³ Inhalation LC50 Rat 4 h
ZINC OXIDE 1314-13-2	1 - 5	> 5000 mg/kg Oral LD50 Rat
XYLENE 1330-20-7	1 - 5	= 4300 mg/kg Oral LD50 Rat = 47635 mg/L Inhalation LC50 Rat 4 h = 5000 ppm Inhalation LC50 Rat 4 h > 1700 mg/kg Dermal LD50 Rabbit
NAPHTHALENE 91-20-3	.1 - 1	= 490 mg/kg Oral LD50 Rat > 20 g/kg Dermal LD50 Rabbit > 2500 mg/kg Dermal LD50 Rat > 340 mg/m ³ Inhalation LC50 Rat 1 h
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	> 15400 mg/kg Oral LD50 Rat > 3 g/kg Dermal LD50 Rabbit

11. TOXICOLOGICAL INFORMATION

CUMENE 98-82-8	.1 - 1	= 1400 mg/kg Oral LD50 Rat = 39000 mg/m ³ Inhalation LC50 Rat 4 h > 3160 mg/kg Dermal LD50 Rabbit
ETHYLBENZENE 100-41-4	.1 - 1	= 15354 mg/kg Dermal LD50 Rabbit = 17.2 mg/L Inhalation LC50 Rat 4 h = 3500 mg/kg Oral LD50 Rat

Mutagens/Teratogens/Carcinogens:

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains ethylbenzene, which has been determined by NTP to be an animal carcinogen with no known relevance to humans. IARC has classified ethylbenzene as possibly carcinogenic to humans (2b) on the basis of sufficient evidence of carcinogenicity in laboratory animals but inadequate evidence of cancer in humans. IARC has classified carbon black as possibly carcinogenic to humans (Group 2B).

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
NAPHTHALENE 91-20-3	.1 - 1		Listed. initial date 4/19/02 - carcinogen
CUMENE 98-82-8	.1 - 1		carcinogen, initial date 4/6/10
ETHYLBENZENE 100-41-4	.1 - 1		Listed. initial date 6/11/04 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
NAPHTHALENE 91-20-3	.1 - 1			Monograph 82 [2002]
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1			Monograph 65 [1996]
CUMENE 98-82-8	.1 - 1			Monograph 101 [in preparation]
ETHYLBENZENE 100-41-4	.1 - 1			Monograph 77 [2000]

Ingredient Name CAS-No.	Approx. Weight %	NTP Known Carcinogens	NTP Suspect Carcinogens
NAPHTHALENE 91-20-3	.1 - 1		Reasonably Anticipated To Be A Human Carcinogen

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
NAPHTHALENE 91-20-3	.1 - 1	Present		
C.I. PIGMENT BLACK 7 1333-86-4	.1 - 1	Present		
ETHYLBENZENE 100-41-4	.1 - 1	Present		A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Dispose of waste at an approved hazardous waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations.

14. TRANSPORTATION INFORMATION

Canadian Transport of Dangerous Goods

UN ID Number (msds): UN1263
Proper Shipping Name: PAINT
Hazard Class: 3
Packing Group: III

TDG Clear Language Exceptions:

For Dangerous Goods, the supplier may apply one of the following exceptions (TDG Reference): Limited quantity/Consumer Commodity (1.17), Does not sustain combustion, etc. (2.18), Viscous liquid (2.19), Flammable liquid General Exemption (1.33) or US DOT Reciprocity (9.1,3 & 4). Please consult current TDG regulations before applying any of these exceptions to subsequent shipments.

International Air Transport Association (IATA):

UN/ID No: UN1263
Proper shipping name: Paint
Hazard Class: 3
Packing Group: III

International Maritime Organization (IMO):

UN/ID No: UN1263
Proper shipping name: PAINT
Hazard Class: 3
Packing Group: III

Marine Pollutant YES
Marine Pollutant Ingredient 1 ZINC OXIDE
Marine Pollutant Ingredient 2 AROMATIC NAPHTHA, LIGHT

15. REGULATORY INFORMATION

INTERNATIONAL REGULATIONS - Chemical Inventories

Canada Domestic Substances List:

All components of this product are listed on the Domestic Substances List.

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada National Pollutant Release Inventory:

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Part 5 Substance
BUTYL ACETATE 123-86-4	5 - 10	Part 5 Substance

Ingredient Name CAS-No.	Approx. Weight %	NPRI Status
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	Part 1, Group 1 Substance Part 5 Substance Part 1, Group 1 Substance
AROMATIC NAPHTHA, HEAVY 64742-94-5	5 - 10	Part 5 Substance
ZINC OXIDE 1314-13-2	1 - 5	Part 1, Group 1 Substance
XYLENE 1330-20-7	1 - 5	Part 1, Group 1 Substance Part 5 Substance Part 1, Group 1 Substance
NAPHTHALENE 91-20-3	.1 - 1	Part 1, Group 1 Substance
CUMENE 98-82-8	.1 - 1	Part 1, Group 1 Substance
ETHYLBENZENE 100-41-4	.1 - 1	Part 1, Group 1 Substance

16. OTHER INFORMATION

HMIS Codes

Health: 2*
Flammability: 3
Reactivity: 1
PPE: X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By: Regulatory Affairs Department
 Print date: 23/Jan/2014
 Revision Date: 23/Jan/2014

Technical Information:

The Valspar Corporation
 PO Box 1461
 Minneapolis, MN 55440

Tech Info Phone: 1-613-932-8960

**24-Hour Medical Emergency
Phone:** 1-888-345-5732



Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product ID: 5430G90020
Product Name: JD F9A PHTHALO GREEN L/C FREE ENAMEL
Product Use: Paint or Coatings Related Product
Print date: 22/Apr/2014
Revision Date: 22/Apr/2014

Company Identification

The Valspar Corporation
PO Box 1461
Minneapolis, MN 55440

Manufacturer's Phone: 1-612-851-7000

24-Hour Medical Emergency Phone: 1-888-345-5732

2. HAZARDS IDENTIFICATION

Primary Routes of Exposure:

Inhalation
Ingestion
Skin absorption

Eye Contact:

- Moderate eye irritation
- Risk of serious damage to eyes.

Skin Contact:

- Causes skin irritation.
- May cause defatting of the skin.
- Dermatitis
- Can be absorbed through skin.

Ingestion:

- Irritation of the mouth, throat, and stomach.

- Harmful if swallowed.
- Aspiration hazard if swallowed - can enter lungs and cause damage.

Inhalation:

- Causes respiratory tract irritation.
- Harmful by inhalation.
- May cause bronchopneumonia or bronchitis.

Target Organ and Other Health Effects:

- Causes headache, drowsiness or other effects to the central nervous system.
- Kidney injury may occur.
- Contains glycol ether which has been shown to cause blood effects damage in laboratory animals.
- Liver injury may occur.
- Risk of serious damage to the lungs (by inhalation).
- Unconsciousness
- Blood disorders

This product contains ingredients that may contribute to the following potential chronic health effects:

- Notice: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Teratogens:

- May cause birth defects.
- Female reproductive toxin.

Carcinogens:

- Possible cancer hazard. Contains material which may cause cancer based on animal data.

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

Ingredient Name CAS-No.	Approx. Weight %	Chemical Name
NAPHTHA 64742-88-7	20 - 25	SOLVENT NAPHTHA, PETROLEUM, MEDIUM ALIPH
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	Petroleum naphtha, light aromatic
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	1,2,4-Trimethylbenzene
BUTYL ACETATE 123-86-4	1 - 5	n-Butyl acetate
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	Ethylene glycol, monobutyl ether acetate
ETHYL 3- ETHOXYPROPIONATE 763-69-9	1 - 5	Ethyl 3-ethoxypropionate
TOLUENE 108-88-3	1 - 5	Toluene
PROPRIETARY COLOR PIGMENT	1 - 5	PROPRIETARY COLOR PIGMENT
TITANIUM DIOXIDE 13463-67-7	1 - 5	Titanium dioxide

3. COMPOSITION / INFORMATION ON HAZARDOUS INGREDIENTS

CUMENE 98-82-8	.1 - 1	Cumene
ETHYLBENZENE 100-41-4	.1 - 1	Ethyl benzene

If this section is blank there are no hazardous components per OSHA guidelines.

4. FIRST AID MEASURES

Eye Contact:

Remove any contact lenses and open eyes wide apart. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If medical assistance is not immediately available, flush an additional 15 minutes. Get medical attention immediately.

Skin Contact:

Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention, if symptoms develop or persist.

Ingestion:

Rinse mouth with water. Give one or two glasses of water. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.

Inhalation:

Move injured person into fresh air and keep person calm under observation. Get medical attention immediately. For breathing difficulties, oxygen may be necessary. If breathing stops, provide artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing.

Medical conditions aggravated by exposure:

Any respiratory or skin condition.

5. FIRE FIGHTING MEASURES

Flash point (Fahrenheit):	95
Flash point (Celsius):	35
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined
Sensitivity to impact:	no
Sensitivity to static discharge:	Subject to static discharge hazards. Please see bonding and grounding information in Section 7.
Hazardous combustion products:	See Section 10.

Unusual fire and explosion hazards:

Contaminated rags, wipes, saw dust, etc., may catch fire spontaneously. Store waste under water in closed metal containers or in approved self-closing containers designed to prevent spontaneous combustion until disposed of in compliance with applicable regulations. Oxidizing Material

Extinguishing media:

Carbon dioxide, dry chemical, foam and/or water fog.

Fire fighting procedures:

Firefighters should be equipped with self-contained breathing apparatus and turn out gear. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

6. ACCIDENTAL RELEASE MEASURES

Action to be taken if material is released or spilled:

Ventilate the area. Avoid breathing dust or vapor. Use self-containing breathing apparatus or airmask for large spills in a confined area. Wipe, scrape or soak up in an inert material and put in a container for disposal. See section 7, "Handling and Storage", for proper container and storage procedures. Remove all sources of ignition. Soak up with inert absorbent material. Use only non-sparking tools. Avoid contact with eyes.

7. HANDLING AND STORAGE

Precautions to be taken in handling and storage:

Keep away from heat, sparks and open flame. - No smoking. Keep container closed when not in use. Do not store above 120 degrees F. (49 degrees C). Based on flash point and vapor pressure, suitable storage should be provided in accordance with OSHA regulation 1910.106, Ontario OH&S regulation 851 section 22. Empty containers may contain product residue, including flammable or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned. If the product is used near or above the flashpoint, an ignition hazard may be present. Activities, uses, or operations which liberate vapor (such as mixing or free fall of liquids) may also present an ignition hazard. Please ensure containers and other interconnected equipment are properly bonded and grounded at all times.

8. PERSONAL PROTECTIVE EQUIPMENT AND EXPOSURE CONTROLS

Personal Protective Equipment

Eye and face protection:

Wear chemical goggles with splash shields or face shield. Contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury in case of exposure.

Skin protection:

Appropriate chemical resistant gloves should be worn.

Other Personal Protection Data:

To prevent skin contact wear protective clothing covering all exposed areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

If exposure cannot be controlled below applicable limits, use the appropriate NIOSH approved respirator such as an air purifying respirator with organic vapor cartridge and dust/mist filter. Consult the respirator manufacturer's literature to ensure that the respirator will provide adequate protection. Read and follow all respirator manufacturer's instructions.

Ventilation

Use only in well-ventilated areas. Ensure adequate ventilation, especially in confined areas. Ovens used for curing should contain a fresh air purge to prevent vapours from accumulating and creating a possible explosive mixture. Where the product is used in a hazardous classified area, use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

OSHA Permissible Exposure Limits (PEL's)

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
BUTYL ACETATE 123-86-4	1 - 5	150 ppm TWA 710 mg/m ³ TWA		
TOLUENE 108-88-3	1 - 5	200 ppm TWA	= 300 ppm Ceiling	
TITANIUM DIOXIDE 13463-67-7	1 - 5	15 mg/m ³ TWA dust total		
CUMENE 98-82-8	.1 - 1	245 mg/m ³ TWA 50 ppm TWA		prevent or reduce skin absorption

Ingredient Name CAS-No.	Approx. Weight %	TWA (final)	Ceilings limits (final)	Skin designations
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA 435 mg/m ³ TWA		

ACGIH Threshold Limit Value (TLV's)

Ingredient Name CAS-No.	Approx. Weight %	TWA	STEL	Ceiling limits	Skin designations
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	25 PPM			
BUTYL ACETATE 123-86-4	1 - 5	150 ppm TWA	200 ppm STEL		
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	20 ppm TWA			
TOLUENE 108-88-3	1 - 5	20 ppm TWA			Can be absorbed through the skin.
PROPRIETARY COLOR PIGMENT	1 - 5	1 mg/m ³ TWA Cu dust and mist			
TITANIUM DIOXIDE 13463-67-7	1 - 5	10 mg/m ³ TWA			
CUMENE 98-82-8	.1 - 1	50 ppm TWA			
ETHYLBENZENE 100-41-4	.1 - 1	100 ppm TWA	125 ppm STEL		

9. PHYSICAL PROPERTIES

Odor:	Normal for this product type.
Physical State:	liquid
pH:	not determined
Vapor pressure:	22.556391 mmHg @ 68°F (20°C)
Vapor density (air = 1.0):	5.5
Boiling point:	230.72°F (110°C)
Solubility in water:	not determined
Coefficient of water/oil distribution:	not determined
Density (lbs per US gallon):	8.23
Specific Gravity:	.99
Evaporation rate (butyl acetate = 1.0):	2.24
Flash point (Fahrenheit):	95
Flash point (Celsius):	35
Lower explosive limit (%):	1
Upper explosive limit (%):	8
Autoignition temperature:	not determined

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat.
Incompatibility:	Strong oxidizing agents
Hazardous Polymerization:	None anticipated.
Hazardous Decomposition Products:	Carbon monoxide and carbon dioxide. Metal oxide fumes.

10. STABILITY AND REACTIVITY

Sensitivity to static discharge:

Subject to static discharge hazards. Please see bonding and grounding information in Section 7.

11. TOXICOLOGICAL INFORMATION

Ingredient Name CAS-No.	Approx. Weight %	NIOSH - Selected LD50s and LC50s
NAPHTHA 64742-88-7	20 - 25	= 3000 mg/kg Dermal LD50 Rabbit > 5.28 mg/L Inhalation LC50 Rat 4 h > 5000 mg/kg Oral LD50 Rat
AROMATIC NAPHTHA, LIGHT 64742-95-6	10 - 15	= 3400 ppm Inhalation LC50 Rat 4 h = 8400 mg/kg Oral LD50 Rat > 2000 mg/kg Dermal LD50 Rabbit > 5.2 mg/L Inhalation LC50 Rat 4 h
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10	= 18 g/m ³ Inhalation LC50 Rat 4 h = 3400 mg/kg Oral LD50 Rat > 3160 mg/kg Dermal LD50 Rabbit
BUTYL ACETATE 123-86-4	1 - 5	= 10768 mg/kg Oral LD50 Rat = 390 ppm Inhalation LC50 Rat 4 h > 17600 mg/kg Dermal LD50 Rabbit
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5	= 1480 mg/kg Dermal LD50 Rabbit = 1600 mg/kg Oral LD50 Rat
ETHYL 3- ETHOXYPROPIONATE 763-69-9	1 - 5	= 10 mL/kg Dermal LD50 Rabbit = 3200 mg/kg Oral LD50 Rat
TOLUENE 108-88-3	1 - 5	= 12.5 mg/L Inhalation LC50 Rat 4 h = 12124 mg/kg Dermal LD50 Rat = 636 mg/kg Oral LD50 Rat = 8390 mg/kg Dermal LD50 Rabbit > 26700 ppm Inhalation LC50 Rat 1 h
PROPRIETARY COLOR PIGMENT	1 - 5	> 3000 mg/kg Oral LD50 Rat
TITANIUM DIOXIDE 13463-67-7	1 - 5	> 10000 mg/kg Oral LD50 Rat
CUMENE 98-82-8	.1 - 1	= 1400 mg/kg Oral LD50 Rat = 39000 mg/m ³ Inhalation LC50 Rat 4 h > 3160 mg/kg Dermal LD50 Rabbit
ETHYLBENZENE 100-41-4	.1 - 1	= 15354 mg/kg Dermal LD50 Rabbit = 17.2 mg/L Inhalation LC50 Rat 4 h = 3500 mg/kg Oral LD50 Rat

Mutagens/Teratogens/Carcinogens:

May cause birth defects. Female reproductive toxin.

Possible cancer hazard. Contains material which may cause cancer based on animal data.

Contains ethylbenzene, which has been determined by NTP to be an animal carcinogen with no known relevance to humans. IARC has classified ethylbenzene as possibly carcinogenic to humans (2b) on the basis of sufficient evidence of carcinogenicity in laboratory animals but inadequate evidence of cancer in humans. Contains TIO₂ which is listed by IARC as a possible human carcinogen (Group 2B) based on animal data. Neither long term animal studies, nor human epidemiology studies of workers exposed to TIO₂ provide an adequate basis to conclude TIO₂ is carcinogenic. TIO₂ is not classified as a carcinogen by NTP, U.S. OSHA, or the U.S. EPA.

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Developmental Toxicity	California Prop 65 - Reproductive (Male)
TOLUENE 108-88-3	1 - 5	Listed. initial date 1/1/91 - developmental toxicity	

Ingredient Name CAS-No.	Approx. Weight %	California Prop 65 - Reproductive (Female)	California Prop 65 - Carcinogen
TOLUENE 108-88-3	1 - 5	Listed. Initial date 8/1/09 - female reproductive toxicity	
CUMENE 98-82-8	.1 - 1		carcinogen, initial date 4/6/10
ETHYLBENZENE 100-41-4	.1 - 1		Listed. initial date 6/11/04 - carcinogen

Ingredient Name CAS-No.	Approx. Weight %	IARC Group 1 - Human Evidence	IARC Group 2A - Limited Human Data	IARC Group 2B - Sufficient Animal Data
TITANIUM DIOXIDE 13463-67-7	1 - 5			Monograph 47 [1989]
CUMENE 98-82-8	.1 - 1			Monograph 101 [in preparation]
ETHYLBENZENE 100-41-4	.1 - 1			Monograph 77 [2000]

Ingredient Name CAS-No.	Approx. Weight %	OSHA - Hazard Communication Carcinogens	OSHA - Specifically Regulated Carcinogens	ACGIH Carcinogens
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5			A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans
TITANIUM DIOXIDE 13463-67-7	1 - 5	Present		
ETHYLBENZENE 100-41-4	.1 - 1	Present		A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans

12. ECOLOGICAL DATA

No information on ecology is available.

13. DISPOSAL CONSIDERATIONS

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation

UN ID Number (msds):	UN1263
Proper Shipping Name:	PAINT
Hazard Class:	3
Packing Group:	III

14. TRANSPORTATION INFORMATION

U.S Hazmat and/or International DG shipment exceptions

The supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

Reportable Quantity Description:

International Air Transport Association (IATA):

UN/ID No: UN1263
Proper shipping name: Paint
Hazard Class: 3
Packing Group: III

International Maritime Organization (IMO):

UN/ID No: UN1263
Proper shipping name: PAINT
Hazard Class: 3
Packing Group: III
Marine Pollutant: YES
Marine Pollutant Ingredient 1: NAPHTHA
Marine Pollutant Ingredient 2: AROMATIC NAPHTHA, LIGHT

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

Ingredient Name CAS-No.	Approx. Weight %	SARA 302	SARA 313	CERCLA RQ in lbs.
1,2,4-TRIMETHYLBENZENE 95-63-6	5 - 10		Listed.	
BUTYL ACETATE 123-86-4	1 - 5			5000
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE 112-07-2	1 - 5		YES	
TOLUENE 108-88-3	1 - 5		form R reporting required for 1.0% de minimis concentration	1000
CUMENE 98-82-8	.1 - 1		form R reporting required for 1.0% de minimis concentration	5000
ETHYLBENZENE 100-41-4	.1 - 1		form R reporting required for 1.0% de minimis concentration	1000

SARA 311/312 Hazard Class:

Acute: yes
Chronic: yes
Flammability: yes
Reactivity: no
Sudden Pressure: no

U.S. STATE REGULATIONS:

Right to Know:

The specific chemical identity of a component may be withheld as a trade secret under 34 Pennsylvania Code, Chapter 317.

Pennsylvania Right To Know:

PROPRIETARY COLOR PIGMENT		Trade Secret
NAPHTHA	64742-88-7	
ETHYL 3-ETHOXYPROPIONATE		763-69-9
ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE		112-07-2
TITANIUM DIOXIDE	13463-67-7	
BUTYL ACETATE	123-86-4	
TOLUENE	108-88-3	
AROMATIC NAPHTHA, LIGHT		64742-95-6
1,2,4-TRIMETHYLBENZENE		95-63-6

Additional Non-Hazardous Materials

PROPRIETARY COLOR PIGMENT	Trade Secret
PROPRIETARY RESIN	Trade Secret
PROPRIETARY RESIN	Trade Secret

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Rule 66 status of product Photochemically reactive.

INTERNATIONAL REGULATIONS - Chemical Inventories

US TSCA Inventory:

All components of this product are in compliance with U.S. TSCA Chemical Substance Inventory Requirements.

Canada Domestic Substances List:

All components of this product are listed on the Domestic Substances List.

16. OTHER INFORMATION

HMIS Codes

Health:	2*
Flammability:	3
Reactivity:	1
PPE:	X - See Section 8 for Personal Protective Equipment (PPE).

Abbreviations:

OSHA - Occupational Safety and Health Administration, IARC - International Agency for Research on Cancer, NIOSH - National Institute of Occupational Safety and Health, NTP - National Toxicology Program, ACGIH - American Conference of Governmental Industrial Hygienists, SCAQMD - South Coast Air Quality Management District, TSCA - Toxic Substances Control Act, IATA - International Air Transport Association, IMO - International Maritime Organization, DOT - Department of Transportation, NA - Not applicable, NOT ESTAB - Not established, N.A.V. - Not available, RQ - Reportable quantity, WT - Weight, MG/CU M - Milligrams per cubic meter, G/L - Grams per liter, MM - Millimeters, MPPCF - Millions of particles per cubic foot, PPM - parts per million, PPT - parts per thousand, TCC/PM - Tag closed cup / Pensky-Martens, PB - Lead, PEL - Permissible exposure level, TWA - Time Weighted Average, STEL - Short term exposure limit, C - Celsius, F - Fahrenheit.

Disclaimer:

The data on this sheet represent typical values. Since application variables are a major factor in product performance, this information should serve only as a general guide. Valspar assumes no obligation or liability for use of this information. UNLESS VALSPAR AGREES OTHERWISE IN WRITING, VALSPAR MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. VALSPAR WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. Your only remedy for any defect in this product is the replacement of the defective product, or a refund of its purchase price, at our option. This MSDS contains additional information required by the state of Pennsylvania.

Preparation Information:

Prepared By:	Regulatory Affairs Department
Print date:	22/Apr/2014
Revision Date:	22/Apr/2014



SAFETY DATA SHEET

HOUGHTON®

Revision Date 08-26-2018

Version 6

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code(s) 42795500-M
 Product Name HOCUT 795 B

Recommended Use Cutting fluid Metalworking fluid
 Uses advised against Any other purpose.

Hazardous Material Information 11490
 Review Act registry number (HMIRA registry #)

Date HMIRA filed and date exemption granted (if applicable) 05-19-2017

Manufacturer, Importer, Supplier

Houghton International Inc. Madison & Van Buren Aves. Valley Forge, PA 19482 Telephone: 610-666-4000 FAX: 610-666-1376 Website: www.houghtonintl.com Customer Service: 888-459-9844	Houghton Canada 915 Meyerside Drive Mississauga ON L5T 1R8
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Emergency telephone number

United States of America/Canada : 3E Company - 1-866-519-4752 (Code 333938)

SECTION 2: HAZARDS IDENTIFICATION

Classification

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Workplace Hazardous Materials Information System (WHMIS) 2015

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1

Label elements

Signal word
WARNING

Hazard statements
 Causes skin irritation
 Causes serious eye irritation
 May cause an allergic skin reaction



Precautionary Statements

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

Specific treatment is urgent (see supplemental first aid instructions on this label)

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN: Wash with plenty of soap and water

Take off contaminated clothing and wash before reuse

If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Health Not Applicable.

Physical Not Applicable.

Other Information

Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture. Health hazard information is based on its ingredients.

Chemical name	CAS No	Weight-%
Highly refined, low viscosity mineral oils/hydrocarbons (Viscosity >7 - <20.5 cSt @40°C)	-	30% - 60%
Neutralised Dicyclohexylamine	101-83-7*	5% - 10%
1-Aminopropan-2-ol	78-96-6	1% - 5%
2,2',2''-Nitrilotriethanol	102-71-6	1% - 5%
Neutralised 1-Aminopropan-2-ol	78-96-6*	1% - 5%
Glycerol	56-81-5	1% - 5%
Neutralised boric acid	10043-35-3*	1% - 5%
1,2-Benzisothiazol-3(2H)-one	2634-33-5	0.1% - 1%

Information on HMIRA filing can be found in Section 1 of the SDS . The exact percentage (concentration) of composition has been withheld as a trade secret.

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346. See Section 15 for additional information on base oils.

CAS Numbers marked with * indicate that the substance is neutralised during the manufacturing process. The substance is present as part of a complex mixture, usually called "ionic mixture", which is intended to facilitate the process/application of the product in use.

SECTION 4: FIRST AID MEASURES

Description of first-aid measures

General advice	Do not get in eyes, on skin, or on clothing. May produce an allergic reaction. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Move to fresh air.
Skin contact	If symptoms persist, call a physician. Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use.
Eye contact	Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do not induce vomiting without medical advice.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms and effects, both acute and delayed

Main Symptoms Itching, May cause allergic skin reaction, Eye damage/irritation, Rash, Redness

Indication of immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. May cause sensitization of susceptible persons.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment:, Use CO2, dry chemical, or foam, Water spray or fog, Cool containers / tanks with water spray

Extinguishing media which shall not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire

Special hazards arising from the substance or mixture

Special Hazard

In the event of fire and/or explosion do not breathe fumes. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Thermal decomposition can lead to release of irritating gases and vapors. Water runoff can cause environmental damage.

Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide

Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove all sources of ignition.

Advice for non-emergency personnel Material can create slippery conditions.

Advice for emergency responders For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dike to collect large liquid spills.

Reference to other sections

See Section 8/12/13 for additional information

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Advice on safe handling. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep at temperatures between - 5 and 50 °C.

Recommended Shelf Life

Shelf life 12 months.

Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases

Specific end uses

Specific use(s) Cutting fluid Metalworking fluid

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Legend:

(s) - Skin; TWA - Time-Weighted Average; STEL - Short Term Exposure Limit; Ceiling - Ceiling Value; TLV® - Threshold Limit Value; PEL (Permissible Exposure Limit); IDLH (immediately dangerous to life and health); WEEL (Workplace Environmental Exposure Level Guides)

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	AIHA WEEL
Highly refined, low viscosity mineral oils/hydrocarbons (Viscosity >7 - <20.5 cSt @40°C)	5 mg/m ³ (mist)	5 mg/m ³ (mist)		
2,2',2''-Nitrilotriethanol	TWA: 5 mg/m ³			

102-71-6			
Glycerol 56-81-5		TWA: 15 mg/m ³ TWA: 5 mg/m ³ (mist, total particulate) (mist, respirable fraction)	

OSHA - Occupational Safety and Health Administration of the US Department of Labor
ACGIH - American Conference of Governmental Industrial Hygienists

Hydrocarbon solvent vapor mixtures which do not have substance specific occupational exposure limits may be evaluated by the Reciprocal Calculation Procedure (RCP) which assigns a recommended occupational exposure limit based on the mass composition and hydrocarbon group guidance values (GGVs). Applicable recommended occupational exposure limits are shown in the table below.

Chemical name	RCP OEL	Manufacturer
Distillates (petroleum), hydrotreated middle 64742-46-7	RCP: TWA 1200 mg/m ³ 143ppm	

Exposure controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and body protection Wear protective gloves/clothing.

Respiratory protection No special protective equipment required. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hygiene measures Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Appearance	hazy amber
Odor	amine-like	Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	9.6	@5%
Melting point / freezing point	Not Determined	
Boiling point / boiling range	> 100 °C / > 212 °F	
Flash point	Not Determined	
Evaporation rate	Not Determined	
Flammability (solid, gas)	Not Determined	
Flammability Limit in Air		
Upper flammability limit:	Not Determined	
Lower flammability limit:	Not Determined	
Vapor pressure	Not Determined	
Vapor density	Not Determined	
Relative density	0.970	g/cm ³ @20°C
Solubility(ies)	Emulsifies	
Partition coefficient	Not Determined	
Autoignition temperature	Not Determined	

Decomposition temperature	Not Determined
Kinematic viscosity	> 22 cSt @ 40 °C
Explosive properties	Not applicable
Oxidizing Properties	Not applicable

Other Information

Viscosity, kinematic (100°C)	Not Determined	
Pour Point	Not Determined	
VOC Content (ASTM E-1868-10)	113 g/L	ASTM E 1868-10
VOC content	Not Determined	

SECTION 10: STABILITY AND REACTIVITY**Reactivity**

None under normal use conditions

Chemical stability

Stable under normal conditions

Possibility of hazardous reactions

None under normal use conditions

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Heat, flames and sparks.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Product Information	There is no data available for this product.
Inhalation	Based on available data, the classification criteria are not met
Eye contact	Irritating to eyes.
Skin contact	Irritating to skin; Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
Ingestion	Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Highly refined, low viscosity mineral oils/hydrocarbons (Viscosity >7 - <20.5 cSt @40°C)	>2000 mg/kg	>2000 mg/kg	
1-Aminopropan-2-ol 78-96-6	2098 mg/kg (Rat)	1851 mg/kg (Rabbit)	
2,2',2''-Nitrilotriethanol 102-71-6		> 16 mL/kg (Rat) > 2000 mg/kg (Rabbit)	
Neutralised 1-Aminopropan-2-ol	2098 mg/kg (Rat)	1851 mg/kg (Rabbit)	

78-96-6*			
Glycerol 56-81-5	12600 mg/kg (Rat)	> 21900 mg/kg (Rat)	
Neutralised boric acid 10043-35-3*	3500 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.16 mg/L (Rat) 4 h
1,2-Benzisothiazol-3(2H)-one 2634-33-5	1020 mg/kg (Rat)	4115 mg/kg (Rat)	

Information on toxicological effects

Symptoms Moderate skin irritation. Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Moderately irritating to the eyes.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Irritating to skin.

Serious eye damage/eye irritation Irritating to eyes

Sensitization May cause sensitization by skin contact.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Contains a known or suspected reproductive toxin.

Specific target organ toxicity (single exposure) Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure) Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

Chemical name	Algae/aquatic plants	Fish	Crustacea
Neutralised Dicyclohexylamine		62: 96 h Brachydanio rerio mg/L LC50 static	
1-Aminopropan-2-ol	32.7: 72 h Scenedesmus subspicatus mg/L EC50	2520: 96 h Pimephales promelas mg/L LC50 210: 96 h Carassius auratus mg/L LC50 215 - 464: 96 h Leuciscus idus mg/L LC50	108.82: 48 h Daphnia magna mg/L EC50
2,2',2''-Nitrilotriethanol	216: 72 h Desmodemus subspicatus mg/L EC50 169: 96 h Desmodemus subspicatus mg/L EC50	10600-13000: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Pimephales promelas mg/L LC50 static 450-1000: 96 h Lepomis macrochirus mg/L LC50 static	1386: 24 h Daphnia magna mg/L EC50
Neutralised 1-Aminopropan-2-ol	32.7: 72 h Scenedesmus subspicatus mg/L EC50	2520: 96 h Pimephales promelas mg/L LC50 210: 96 h Carassius auratus mg/L	108.82: 48 h Daphnia magna mg/L EC50

		LC50 215 - 464: 96 h Leuciscus idus mg/L LC50	
Glycerol		54000: 96 h Oncorhynchus mykiss ml/L LC50	>10000: 24 h Daphnia Magna mg/L EC50
Neutralised boric acid	>28: 72 h Selenastrum capricornutum mg/L EC50	1020: 72 h Carassius auratus mg/L LC50 flow-through 627: 96 h Oncorhynchus tschawytscha mg/L LC50	115 - 153: 48 h Daphnia magna mg/L EC50
1,2-Benzisothiazol-3(2H)-one	0.11: 72 h Selenastrum capricornutum mg/L EC50 0.15: 72 h Desmodosmus subspicatus mg/L EC50	2.18: 96 h Oncorhynchus mykiss mg/L LC50 5.9: 96 h Lepomis macrochirus mg/L LC50	2.94: 48 h Daphnia magna mg/L EC50

Persistence and degradability The product is not readily biodegradable, but it can be degraded by micro-organisms, it is regarded as being inherently biodegradable.

Bioaccumulation

Chemical name	Partition coefficient
Neutralised Dicyclohexylamine 101-83-7*	3.5
1-Aminopropan-2-ol 78-96-6	-0.94
2,2',2''-Nitrilotriethanol 102-71-6	-2.53
Neutralised 1-Aminopropan-2-ol 78-96-6*	-0.94
Glycerol 56-81-5	-1.76
Neutralised boric acid 10043-35-3*	-0.757
1,2-Benzisothiazol-3(2H)-one 2634-33-5	0.4

Mobility No information available.

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Dispose of in accordance with federal, state and local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Observe all label precautions until container is cleaned, reconditioned or destroyed.

SECTION 14: TRANSPORT INFORMATION

DOT Not Regulated

Remarks This material meets the UN/IMDG criteria as a marine pollutant. Although not required, this may also be classified as a marine pollutant in the US

TDG Not Regulated

Remarks This material meets the UN/IMDG criteria as a marine pollutant. Although not required, this may also be classified as a marine pollutant in Canada

IATA
UN/ID no UN3082

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
ERG Code	9L
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NEUTRALISED DICYCLOHEXYLAMINE, 1,2-BENZISOTHIAZOL-3(2H)-ONE), 9, III

IMDG

UN/ID no	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
Hazard Class	9
Packing Group	III
EmS-No	F-A, S-F
Vessel Stowage Location Code	A
Description	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NEUTRALISED DICYCLOHEXYLAMINE, 1,2-BENZISOTHIAZOL-3(2H)-ONE), 9, III, Marine pollutant

SECTION 15: REGULATORY INFORMATION**International Inventories**

Inventory information may be utilizing alternative CAS#s or exemptions beyond those stated within this document For further information, please contact: ProductStewardship@houghtonintl.com

TSCA	Complies
DSL	Complies
AICS	Complies
PICCS	Does not Comply
KECL	Does not Comply
IECSC	Complies
ENCS	Does not Comply
TCSI	Does not Comply
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
ENCS - Japan Existing and New Chemical Substances
TCSI - Taiwan National Existing Chemical Inventory
NZIoC - New Zealand Inventory of Chemicals

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

- Skin corrosion/irritation
- Respiratory or skin sensitization
- Serious eye damage/eye irritation

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this regulation, Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

SCAQMD Rule 1144

The sale or distribution in the SCAQM District of California for metal working fluids or direct-contact lubricants is allowed if EITHER the VOC of the product itself OR the VOC of the diluted product at the point of use is less than the following limits: (1) 75 g VOC/L for metal forming, metal removal, metal treating; (2) 50 g VOC/L for metal protection, direct-contact lubricant. The VOC of this product as sold is: 113 g/L gVOC/L (ASTM E-1868-10)

California Proposition 65

WARNING: This product contains a chemical(s) known to the State of California to cause cancer and/or birth defects or other reproductive harm.

Chemical name	CAS No	California Prop. 65
Diethanolamine	111-42-2	Carcinogen
1,4-Dioxane	123-91-1	Carcinogen
Ethylene oxide	75-21-8	Carcinogen Developmental Female Reproductive Male Reproductive

International Regulations

Ozone-depleting substances (ODS)

Not applicable

Persistent Organic Pollutants

Not applicable

Chemicals Subject to Prior Informed Consent (PIC)

Not applicable

Other Information

The highly refined, low viscosity mineral oils/hydrocarbons (Viscosity >7 - <20.5 cSt @40°C) contains one or more substance with the following CAS/EC numbers/REACH registration numbers:

Chemical name	CAS No
Distillates (petroleum), straight-run middle	64741-44-2
Distillates (petroleum), heavy hydrocracked	64741-76-0
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4
Distillates (petroleum), solvent-refined light paraffinic	64741-89-5
Residual oils (petroleum), solvent deasphalted	64741-95-3
Distillates (petroleum), solvent-refined heavy naphthenic	64741-96-4
Residual oils (petroleum), solvent-refined	64742-01-4
Distillates (petroleum), hydrotreated middle	64742-46-7
Distillates (petroleum), hydrotreated middle	64742-46-7
Distillates (petroleum), hydrotreated light	64742-47-8
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5
Distillates (petroleum), hydrotreated light naphthenic	64742-53-6
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8
Distillates (petroleum), hydrotreated light paraffinic	64742-55-8

Distillates, petroleum, solvent-dewaxed light paraffinic	64742-56-9
Distillates (petroleum), solvent-dewaxed light paraffinic	64742-56-9
Residual oils (petroleum), hydrotreated	64742-57-0
Lubricating oils (petroleum), hydrotreated spent	64742-58-1
Residual oils (petroleum), solvent-dewaxed	64742-62-7
Distillates (petroleum), solvent-dewaxed heavy, paraffinic	64742-65-0
Paraffin oils (petroleum), catalytic dewaxed light	64742-71-8
Dec-1-ene, homopolymer, hydrogenated	68037-01-4
Lubricating oils (petroleum), C>25, hydrotreated bright stock-based	72623-83-7
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high-viscosity	72623-85-9
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0
Lubricating oils (petroleum), C20-C50, hydrotreated neutral oil-based	72623-87-1
Lubricating oils	74869-22-0
White mineral oil (petroleum)	8042-47-5
C18-C50 branched, cyclic and linear hydrocarbons – Distillates	848301-69-9
Hydrocarbons, C14-C19, isoalkanes, cyclics, <2% aromatics	NOT AVAILABLE

SECTION 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

STOT SE - Specific target organ systemic toxicity (Single exposure)
 STOT RE - Specific target organ systemic toxicity (repeated exposure)
 VOC - Volatile organic compounds
 NIOSH IDLH: Immediately Dangerous to Life or Health

Revision Date 08-26-2018

Revision Note Not applicable

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



HOUGHTON®

Revision Date 08-26-2018

Version 3

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Code(s) 21342000-M
Product Name RUST VETO 342
Recommended Use Rust preventive
Uses advised against Any other purpose.

Manufacturer, Importer, Supplier

Houghton International Inc. Houghton Canada
Madison & Van Buren Aves. 915 Meyerside Drive
Valley Forge, PA 19482 Mississauga
Telephone: 610-666-4000 FAX: 610-666-1376 ON
Website: www.houghtonintl.com L5T 1R8
Customer Service: 888-459-9844

Emergency telephone number

United States of America/Canada : 3E Company - 1-866-519-4752 (Code 333938)

SECTION 2: HAZARDS IDENTIFICATION

Classification

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) and the Workplace Hazardous Materials Information System (WHMIS) 2015

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 3

Label elements

Signal word
WARNING

Hazard statements

Causes serious eye irritation
May cause drowsiness or dizziness
Flammable liquid and vapor



Precautionary Statements

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/Bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/./? /equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep cool

Precautionary Statements - Response

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Health Not Applicable.

Physical Not Applicable.

Other Information

Prolonged skin contact may defat the skin and produce dermatitis
 Repeated exposure may cause skin dryness or cracking

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture. Health hazard information is based on its ingredients.

Chemical name	CAS No	Weight-%
Distillates (petroleum), hydrotreated light	64742-47-8	30% - 60%
Calcium dihydroxide	1305-62-0	1% - 5%
2-Methylpentane-2,4-diol	107-41-5	1% - 5%

The exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

Description of first-aid measures

General advice	Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Skin contact	Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use.
Eye contact	Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Do not rub affected area. Seek immediate medical attention/advice.
Ingestion	If symptoms persist, call a physician. Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Main Symptoms Itching, Eye damage/irritation, Redness

Indication of immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.; Use CO2, dry chemical, or foam, Water spray or fog, Cool containers / tanks with water spray

Extinguishing media which shall not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire

Special hazards arising from the substance or mixture

Special Hazard

In the event of fire and/or explosion do not breathe fumes. Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Flammable. Risk of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide

Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak.

Advice for non-emergency personnel Eliminate all ignition sources if safe to do so. Evacuate personnel to safe areas.

Advice for emergency responders For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Dike to collect large liquid spills. After cleaning, flush away traces with water.

Reference to other sections

See Section 8/12/13 for additional information

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice. Advice on safe handling.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of the reach of children.

Recommended Shelf Life

Shelf life 12 months.

Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases

Specific end uses

Specific use(s) Rust preventive

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Legend:

(s) - Skin; TWA - Time-Weighted Average; STEL - Short Term Exposure Limit; Ceiling - Ceiling Value; TLV® - Threshold Limit Value; PEL (Permissible Exposure Limit); IDLH (immediately dangerous to life and health); WEEL (Workplace Environmental Exposure Level Guides)

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	AIHA WEEL
Distillates (petroleum), hydrotreated light	5 mg/m ³ (mist)	5 mg/m ³ (mist)		

64742-47-8				
Calcium dihydroxide 1305-62-0	TWA: 5 mg/m ³	TWA: 15 mg/m ³ TWA: 5 mg/m ³ (total dust) (respirable fraction)	TWA: 5 mg/m ³	
2-Methylpentane-2,4-diol 107-41-5	TWA: 25 ppm (vapor fraction) STEL: 50 ppm STEL: 10 mg/m ³ (inhalable particulate matter, aerosol only)		Ceiling: 25 ppm Ceiling: 125 mg/m ³	

OSHA - Occupational Safety and Health Administration of the US Department of Labor

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH - National Institute for Occupational Safety and Health

Exposure controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Tightly fitting safety goggles.

Skin and body protection

Wear protective gloves/clothing.

Respiratory protection

No special protective equipment required. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hygiene measures

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Appearance	light brown
Odor	mineral oil	Odor threshold	Not Determined

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	Not Determined	
Melting point / freezing point	Not Determined	
Boiling point / boiling range	Not Determined	
Flash point	41 °C / 106 °F	Tag closed cup
Evaporation rate	< 1	(BuAc = 1)
Flammability (solid, gas)	Not Determined	
Flammability Limit in Air		
Upper flammability limit:	Not Determined	
Lower flammability limit:	Not Determined	
Vapor pressure	Not Determined	
Vapor density	Not Determined	
Relative density	0.87	g/cm ³ @15.5°C
Solubility(ies)	negligible	
Partition coefficient	Not Determined	
Autoignition temperature	Not Determined	
Decomposition temperature	Not Determined	

Kinematic viscosity 85 cSt @ 40 °C
Explosive properties Not applicable
Oxidizing Properties Not applicable

Other Information

Viscosity, kinematic (100°C) Not Determined
Pour Point Not Determined
VOC Content (ASTM E-1868-10) ~ 402 g/L ASTM E1868-10
VOC content Not Determined

SECTION 10: STABILITY AND REACTIVITY**Reactivity**

None under normal use conditions

Chemical stability

Stable under normal conditions

Possibility of hazardous reactions

None under normal use conditions

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Heat, flames and sparks. Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products

Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide and carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Product Information There is no data available for this product.
Inhalation Vapors may cause drowsiness and dizziness
Eye contact Irritating to eyes.
Skin contact Based on available data, the classification criteria are not met
Ingestion Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Distillates (petroleum), hydrotreated light 64742-47-8	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.2 mg/L (Rat) 4 h
Calcium dihydroxide 1305-62-0	7340 mg/kg (Rat)		
2-Methylpentane-2,4-diol 107-41-5	3692 mg/kg (Rat)	= 8560 µL/kg (Rabbit)	> 310 mg/m ³ (Rat) 1 h

Information on toxicological effects

Symptoms Moderately irritating to the eyes. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Prolonged skin contact may defat the skin and produce dermatitis.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Irritating to eyes

Sensitization Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure) May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

No special environmental measures are necessary

Chemical name	Algae/aquatic plants	Fish	Crustacea
Distillates (petroleum), hydrotreated light	1000: 72 h Pseudokirchneriella subcapitata mg/L EC50	1000: 96 h Oncorhynchus mykiss mg/L LC50	1000: 48 h Daphnia magna mg/L EC50
Calcium dihydroxide		50.6: 96 h Oncorhynchus mykiss mg/L LC50	
2-Methylpentane-2,4-diol	>420: 72 h Selenastrum capricornutum mg/l EC50	10500-11000: 96 h Pimephales promelas mg/L LC50 flow-through 10000: 96 h Lepomis macrochirus mg/L LC50 static 8690: 96 h Pimephales promelas mg/L LC50 flow-through 10700: 96 h Pimephales promelas mg/L LC50 static	2700 - 3700: 48 h Daphnia magna mg/L EC50

Persistence and degradability The product is not readily biodegradable, but it can be degraded by micro-organisms, it is regarded as being inherently biodegradable.

Bioaccumulation

Chemical name	Partition coefficient
2-Methylpentane-2,4-diol 107-41-5	0.14

Mobility No information available.

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods**Waste Disposal Methods** Dispose of in accordance with federal, state and local regulations.**Contaminated packaging** Observe all label precautions until container is cleaned, reconditioned or destroyed.**SECTION 14: TRANSPORT INFORMATION**

DOT Not regulated in non-bulk; Combustible Liquid in bulk.
UN/ID no NA1993
Proper shipping name COMBUSTIBLE LIQUID, N.O.S.
Hazard Class Combustible liquid
Packing Group III
Emergency Response Guide Number 128
Description NA1993, COMBUSTIBLE LIQUID, N.O.S. (DISTILLATES (PETROLEUM), HYDROTREATED LIGHT), Combustible liquid, III

TDG Not regulated (If shipped in NON BULK packaging by ground transport)
UN/ID no UN1268
Proper shipping name PETROLEUM DISTILLATES, N.O.S.
Hazard Class 3
Packing Group III
Description UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III

IATA
UN/ID no UN1268
Proper shipping name PETROLEUM DISTILLATES, N.O.S.
Hazard Class 3
Packing Group III
ERG Code 3L
Description UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III

IMDG
UN/ID no UN1268
Proper shipping name PETROLEUM DISTILLATES, N.O.S.
Hazard Class 3
Packing Group III
EmS-No F-E, S-E
Vessel Stowage Location Code A
Description UN1268, PETROLEUM DISTILLATES, N.O.S., 3, III, (41 °C c.c.)

SECTION 15: REGULATORY INFORMATION**International Inventories**

Inventory information may be utilizing alternative CAS#s or exemptions beyond those stated within this document For further information, please contact: ProductStewardship@houghtonintl.com

TSCA	Complies
DSL	Complies
AICS	Complies
PICCS	Complies
KECL	Complies
IECSC	Complies
ENCS	Complies

TCSI
NZIoC

Complies
Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
AICS - Australian Inventory of Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
ENCS - Japan Existing and New Chemical Substances
TCSI - Taiwan National Existing Chemical Inventory
NZIoC - New Zealand Inventory of Chemicals

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

- Flammable (gases, aerosols, liquids, or solids)
- Serious eye damage/eye irritation
- Specific target organ toxicity (single or repeated exposure)

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this regulation, Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

SCAQMD Rule 1144

The sale or distribution in the SCAQM District of California for metal working fluids or direct-contact lubricants is allowed if EITHER the VOC of the product itself OR the VOC of the diluted product at the point of use is less than the following limits: (1) 75 g VOC/L for metal forming, metal removal, metal treating; (2) 50 g VOC/L for metal protection, direct-contact lubricant. The VOC of this product as sold is: ~ 402 g/L gVOC/L (ASTM E-1868-10)

California Proposition 65

This product does not contain any Proposition 65 chemicals.

International Regulations

Ozone-depleting substances (ODS)

Not applicable

Persistent Organic Pollutants

Not applicable

Chemicals Subject to Prior Informed Consent (PIC)

Not applicable

Other Information

Not applicable

SECTION 16: OTHER INFORMATION**Key or legend to abbreviations and acronyms used in the safety data sheet**

STOT SE - Specific target organ systemic toxicity (Single exposure)
STOT RE - Specific target organ systemic toxicity (repeated exposure)
VOC - Volatile organic compounds
NIOSH IDLH: Immediately Dangerous to Life or Health

Revision Date 08-26-2018

Revision Note Not applicable

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

SAFETY DATA SHEET

SUPERCUT™/MC 13

000003000509



Version 3.0

Revision Date 2017/02/06

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SECTION 1. IDENTIFICATION

Product name : SUPERCUT™/MC 13

Product code : SCUT13, SCUT13DRM

Manufacturer or supplier's details

Petro-Canada Lubricants Inc.
2310 Lakeshore Road West
Mississauga ON L5J 1K2
Canada

Emergency telephone number : Petro-Canada Lubricants Inc.: +1 905-403-5770;
CHEMTREC Transport Emergency: 1-800-424-9300;
Poison Control Centre: Consult local telephone directory for emergency number(s).

Recommended use of the chemical and restrictions on use

Recommended use : Supercut Oils are designed for use in heavy duty cutting and grinding operations on high strength ferrous alloys and tough-to-machine nickel/cobalt alloys. These operations include: tapping, threading, broaching, deep hole drilling and form grinding.

Prepared by : Product Safety: +1 905-804-4752

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Low viscosity liquid
Colour	dark amber
Odour	Mild petroleum oil like.

GHS Classification

Effects on or via lactation

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

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Signal word : Danger

Hazard statements : May be fatal if swallowed and enters airways.
May cause harm to breast-fed children.

Precautionary statements : **Prevention:**
Obtain special instructions before use.
Avoid contact during pregnancy and while nursing.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Response:
IF SWALLOWED: Immediately call a POISON CENTER/doctor.
IF exposed or concerned: Get medical advice/ attention.
Do NOT induce vomiting.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Potential Health Effects

Primary Routes of Entry : Eye contact
Ingestion
Inhalation
Skin contact

Aggravated Medical Condition : None known.

Other hazards

None known.

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity	72623-85-9	70 - 90 %
alkanes, C14-17, chloro	85535-85-9	1 - 5 %

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SECTION 4. FIRST AID MEASURES

- | | |
|---|---|
| If inhaled | : Move to fresh air.
Artificial respiration and/or oxygen may be necessary.
Seek medical advice. |
| In case of skin contact | : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Wash clothing before reuse.
Seek medical advice. |
| In case of eye contact | : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Obtain medical attention. |
| If swallowed | : Rinse mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Never give anything by mouth to an unconscious person.
Seek medical advice. |
| Most important symptoms and effects, both acute and delayed | : First aider needs to protect himself. |

SECTION 5. FIREFIGHTING MEASURES

- | | |
|---------------------------------------|--|
| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : No information available. |
| Specific hazards during fire-fighting | : Cool closed containers exposed to fire with water spray. |
| Hazardous combustion products | : Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), phosphorus oxides (PO _x), sulphur compounds (H ₂ S), hydrogen chloride, Phosgene gas, smoke and irritating vapours as products of incomplete combustion. |
| Further information | : Prevent fire extinguishing water from contaminating surface water or the ground water system. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|----------------------------------|--------------------------------------|
| Personal precautions, protection | : Use personal protective equipment. |
|----------------------------------|--------------------------------------|

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- tive equipment and emergency procedures : Ensure adequate ventilation.
Evacuate personnel to safe areas.
Material can create slippery conditions.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Prevent further leakage or spillage if safe to do so.
Remove all sources of ignition.
Soak up with inert absorbent material.
Non-sparking tools should be used.
Ensure adequate ventilation.
Contact the proper local authorities.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with skin, eyes and clothing.
Do not ingest.
Keep away from heat and sources of ignition.
Keep container closed when not in use.
- Conditions for safe storage : Store in original container.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Keep in a dry, cool and well-ventilated place.
Keep in properly labelled containers.
To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity	72623-85-9	TWA (Mist)	5 mg/m ³	CA AB OEL
		STEL (Mist)	10 mg/m ³	CA AB OEL
		TWAEV (Mist)	5 mg/m ³	CA QC OEL
		STEV (Mist)	10 mg/m ³	CA QC OEL
		TWA (Inhalable fraction)	5 mg/m ³	ACGIH

- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne

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contaminants.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. 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.

Filter type : organic vapour filter

Hand protection
Material : neoprene, nitrile, polyvinyl alcohol (PVA), Viton(R).

Remarks : 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.

Eye protection : Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Protective measures : Wash hands and face before breaks and immediately after handling the product.
Wash contaminated clothing before re-use.
Ensure that eyewash station and safety shower are proximal to the work-station location.

Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use.
Wash face, hands and any exposed skin thoroughly after handling.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Low viscosity liquid

Colour : dark amber

Odour : Mild petroleum oil like.

Odour Threshold : No data available

pH : No data available

Pour point : -21 °C (-6 °F)

Boiling point/boiling range : No data available

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Flash point	:	177 °C (351 °F) Method: Cleveland open cup
Fire Point	:	185 °C (365 °F)
Auto-Ignition Temperature	:	No data available
Evaporation rate	:	No data available
Flammability	:	Low fire hazard. This material must be heated before ignition will occur.
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.8709 kg/l (15 °C / 59 °F)
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity		
Viscosity, kinematic	:	13.47 cSt (40 °C / 104 °F) 3.20 cSt (100 °C / 212 °F)
Explosive properties	:	Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions	:	Hazardous polymerisation does not occur. Stable under normal conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	Reactive with oxidising agents, reducing agents and acids.
Hazardous decomposition products	:	May release COx, SOx, POx, H2S, hydrogen chloride, aldehydes, Phosgene gas, smoke and irritating vapours when heated to decomposition.

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SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Ingestion
Inhalation
Skin contact

Acute toxicity

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Components:

lubricating oils (petroleum), C20-50, hydrotreated neutral oil-based, high viscosity:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg,

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg,

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

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STOT - single exposure

No data available

STOT - repeated exposure

No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

Toxicity to algae : Remarks: No data available

Toxicity to bacteria : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil. Offer surplus and non-recyclable solutions to a licensed disposal company. Waste must be classified and labelled prior to recycling or disposal. Send to a licensed waste management company. Dispose of product residue in accordance with the instructions of the person responsible for waste disposal.

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SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

The components of this product are reported in the following inventories:

DSL

On the inventory, or in compliance with the inventory

TSCA

All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EINECS

On the inventory, or in compliance with the inventory

AICS

On the inventory, or in compliance with the inventory

KECI

On the inventory, or in compliance with the inventory

PICCS

On the inventory, or in compliance with the inventory

IECSC

On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

For Copy of SDS : Internet: lubricants.petro-canada.com/sds
Western Canada, telephone: 1-800-661-1199; fax: 1-800-378-4518
Ontario & Central Canada, telephone: 1-800-268-5850; fax: 1-800-201-6285
Quebec & Eastern Canada, telephone: 1-800-576-1686; fax: 1-800-201-6285
For Product Safety Information: 1 905-804-4752

Prepared by : Product Safety: +1 905-804-4752

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about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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