

Material Safety Data Sheet (MSDS)

OSHA HazCom Standard 29 CFR 1910.1200(g), Rev. 2012 and GHS Rev 03.

Conforms to Canada WHMIS 2015

Section 1. Identification

GHS product Identifier : ARMORGEL 4000 Cryogenic Service
Trade Name : ARMORGEL
Product code : Not available
Other means of identification : Not available
Product type : Anti-corrosion gel product (Food Grade)
Relevant identified uses of the substance or mixtures and uses advised against Identified use: : Anti-corrosion coating gel for Corrosion under Insulation applications.
Manufacturer / Supplier : Isel / BFX Industrial Products
Address : 1400-10665 Jasper Avenue Edmonton AB T5J 3S9 Canada
Emergency Phone Numbers : +1-800-387-0406

Section 2. Hazards Identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazardous. Communications Standard (49CFR1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : The substance is not classified according to the Globally Harmonized System

GHS label elements : Non-regulated material

Signal word : No signal word. No Regulated Material

Hazard statement : No known significant effects or critical hazards.

Hazard pictograms : Non-regulated material

NFPA ratings (scale 0-4) : Health=0; Fire=1; Reactivity=0

HMIS-ratings (scale 0 - 4) : Health=0; Fire=1; Reactivity=0

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : Not applicable.

Section 3. Composition/Information on Ingredients

Chemical Characterization : Mixture
Other means of identification : Not available
Dangerous Component : Non-regulated material

CAS Number	%	Ingredient name
2082-79-3	1-5	Octadecyl 3-(3,5-di-tert-butyl-4- hydrophenyl) propionate

Canada: The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentration applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8

Section 4. First Aid Measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if irritation occurs. Supply fresh air; consult doctor in case of complaints
Skin contact	: Flush contaminated skin with plenty of soap and water. Get medical attention if symptoms occur. Generally the product does not irritate the skin
Ingestion	: Wash out mouth with water. Remove victim to fresh air and keep at a rest position comfortable for breathing. If material has been swallowed and the exposed person is conscious give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Most important symptoms/effects, acute and delayed Potential acute health effects

Eye contact	: No known or significant effects or critical hazards.
Inhalation	: No known or significant effects or critical hazards.
Skin contact	: No known or significant effects or critical hazards.
Ingestion	: No known or significant effects or critical hazards.

Most important symptoms/effects, acute and delayed Over-exposure signs/symptoms

Eye contact	: No known or significant effects or critical hazards.
Inhalation	: No known or significant effects or critical hazards.
Skin contact	: No known or significant effects or critical hazards.
Ingestion	: No known or significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary.

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Specific treatments : No specific treatment
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training.

Section 5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media	: CO2 or Powder. Water mist to cool, no direct water spray. Collect spillage.
Unsuitable extinguishing media	: None known
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur, and the container may burst.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: Carbon dioxide, carbon monoxide.
Special protective equipment	: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Special protective actions for fire fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in a positive pressure mode.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures.

For non-emergency personal	: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not
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	touch or walk thru spilled material. Put on appropriate personal protective equipment.
For emergency responders	: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel.
Environmental precautions	: Avoid disposal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).
Methods and materials for containment and cleaning up Spills	: Stop leak if without risk. Move container from spill area. Approach release from upwind. Prevent entry into sewers, water courses. Contain and collect spillage with non-combustible absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations Dispose of via a licensed waste disposal contractor. See Section 13 for waste disposal.
Reference to other Sections	: See Section 7 for information on safe handling. : See Section 8 for information on personal protective equipment. : See Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures	: Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	: Eating, drinking and smoking should be prohibited in areas where material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready to use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See section 10 for incompatible materials be handling or use.
Occupational exposure limits	: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace
Appropriate engineering controls	: Good general ventilation should be sufficient to control worker exposure to airborne contaminates.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
Hygiene measure	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the work station location

Section 8. Exposure Controls/Personal Protection

Control parameters

Eye/face protection	: Safety eyewear complying with an approved standard should be used when risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Safety glasses with side shields.
Skin / Hand Protection	: 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. Normally none required, for direct contact of more than 2 hours, PVC, Viton, or Nitrile gloves are recommended.

- Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection : Use a properly fitted, air purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Section 9. Physical and Chemical Properties

- Physical state : Creamy Gel
- Color : May vary. See product Label
- Odor : Not available
- Odor threshold : Not available
- pH : Not applicable
- Melting point : Not available
- Boiling point : Not available
- Flash Point : > 143.3 °C ~430 °F (Base Stock)
- Evaporation rate ASTM D4052 : <0.003kPA @20 °C (Base stock)
- Flammability (solid, gas) : Not available
- Lower & upper explosive limits : Not available
- Vapor density : Not available
- Vapor pressure : Not available
- Relative density @60°F ASTM D4052 : 0.864 (Base stock)
- Solubility : Insoluble in water.
- Partition coefficient: n- octanol/water : Not available
- Auto- ignition temperature : >442 °C (>827.6° F)
- Decomposition temperature : Not available
- Viscosity : Not available
- Organic Solvents : 0.00%

Section 10. Stability and Reactivity

- Reactivity : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability : This product is stable
- Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
- Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials
- Conditions to avoid : No specific data.
- Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Information on toxicological effects

Product/ingredient	Result	Species	Dose	Exposure
Octadecyl 3-(3,5-di-tert-butyl-4- hydrophenyl) propionate	LD ₅₀ Oral	Rat	> 5000 mg/kg	-

- Irritation/Corrosion : There is no data available.
- Sensitization : There is no data available.
- Mutagenicity : There is no data available.
- Carcinogenicity IARC (International Agency for Research on Cancer) : None of the ingredients are listed.
Group 1 - Carcinogenic to humans
Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans
 Group 3 - Not classifiable as to its carcinogenicity to humans
 Group 4 - Probably not carcinogenic to humans
 Reproductive toxicity : There is no data available.
 Teratogenicity : There is no data available.
 Specific target organ toxicity (single exposure) : There is no data available.
 Specific target organ toxicity (repeated exposure) : There is no data available.
 Aspiration Hazard : There is no data available.
 Information on the likely routes of exposure : Dermal contact, eye contact, ingestion, inhalation.
 Additional Toxicology information

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
 Inhalation : No known significant effects or critical hazards.
 Skin contact : No known significant effects or critical hazards.
 Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No known significant effects or critical hazards.
 Inhalation : No known significant effects or critical hazards.
 Skin contact : No known significant effects or critical hazards.
 Ingestion : No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.
 Potential delayed effects : No known significant effects or critical hazards.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.
 Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Teratogenicity : No known significant effects or critical hazards.
 Developmental effects : No known significant effects or critical hazards.
 Fertility effects : No known significant effects or critical hazards.

Numerical measure of toxicity

Acute toxicity estimates : There is no data available.

Section 12. Ecological Information

Toxicity : There is no data available.
 Persistence and degradability : There is no data available.

Bioaccumulative potential

Product/ingredient	LogP _{ow}	BCF	Potential
Octadecyl 3-(3,5-di-tert-butyl- 4-ydrophenyl)proprate	-	<1470	high

Mobility in soil

Soil/water partition coefficient (Koc) : Not available.
 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal Considerations

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

Section 14. Transportation Information

DOT, ADN, IMDG, IATA : Non-regulated material
ADR : Non-regulated material
UN proper shipping name :
DOT, ADR, ADN, IMDG, IATA : Non-regulated material
Transport hazard class(es) : Transport hazard class(es)
Packing group :
DOT, ADR, IMDG, IATA : Non-regulated material
Environmental hazards : Environmental hazards
Marine pollutant : No
Special precautions for user : Not applicable
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : Not applicable

Section 15. Regulatory Information

Canadian lists

Canada Inventory (DSL NDSL) : All components are listed or exempted.
Canadian NPRI : None of the components are listed.
CEPA Toxic Substance : None of the components are listed.
Extremely hazardous substances : None of the ingredients are listed
Specific toxic chemical listings : None of the ingredients are listed
TSCA (Toxic Substances Control Act) : All components are either listed or not regulated under TSCA

Carcinogenic categories

EPA (Environmental Protection Agency) : None of the ingredients are listed
TLV (Threshold Limit Value established by ACGIH) : None of the ingredients are listed
NIOSH-Ca (National Institute for occupational Safety and Health) : Non-regulated material
GHS label elements : Non-regulated material
Hazard pictograms : Non-regulated material
Signal word : Non-regulated material
Hazard statements : Non-regulated material
National regulations : Non-regulated material
State Right to Know : Non-regulated material
Chemical safety assessment : A Chemical Safety Assessment has not been carried out.

Section 16. Other information

Date of revision: June 6, 2019 Date of previous issue August 30, 2016
Revisions: Create stand-alone Canadian SDS
Version 2
Prepared by J. Akanni

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

Date of preparation / last revision 02/19/2016 / 1
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods

Abbreviations and acronyms

DOT: US Department of Transportation IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society) NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)