MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product number	SP758
Material name	**ICE OFF WINDSHIELD ICE REMOVER**
Company information	
	RICMAR INDUSTRIES 889 N LARCH
Company phone	ELMHURST, IL 60126 United States
Emergency telephone US	
Emergency telephone outside US	1-952-852-4646
Version #	01
Supersedes date	09-21-2009

2. Hazards Identification

Emergency overview	DANGER POISON FLAMMABLE CONTENTS UNDER PRESSURE. Aerosol. Pressurized container may explode when exposed to heat or flame. Will be easily ignited by heat, spark or flames. VAPOR HARMFUL. May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. Harmful in contact with eyes. Harmful if inhaled or absorbed through skin. May cause central nervous system effects. May cause damage to the liver. Prolonged exposure may cause chronic effects.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Eye contact may result in corneal injury. Contact with eyes may cause irritation.
Skin	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation	Toxic effects exerted upon nervous system, particularly the optic nerve. Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma and death. Once absorbed into the body, it is very slowly eliminated. A person may get better but then worse again up to 30 hours later.
Ingestion	Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. Even small amounts (30-250 ml methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder and blindness. May cause delayed lung damage.
Target organs	Cardiac. Central nervous system. Gastro-intestinal tract. Lungs. Respiratory system.
Chronic effects	Shortness of breath. Conjunctiva. May cause delayed lung damage. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May cause delayed lung injury.
Signs and symptoms	Discomfort in the chest. Shortness of breath. Corneal damage. Narcosis. Decrease in motor functions. Behavioral changes. Coughing. Conjunctivitis. Skin irritation. Defatting of the skin. Rash. Irritation.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Methanol	67-56-1	60 - 80
Ethylene Glycol	107-21-1	2.5 - 10

Components	CAS #	Percent
Isopropyl Alcohol	67-63-0	2.5 - 10
Carbon Dioxide	124-38-9	1 - 2.5
Propane	74-98-6	1 - 2.5
Other components below reportable levels		10 - 20

4. First Aid Measures

First aid procedures

Eye contact — Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Skin contact — Immediately take off all contaminated clothing. Wash off with warm water and soap. Get medical attention if irritation develops or persists. Get medical attention if irritation develops and persists.

Inhalation — If inhalation of gas/fume/vapor/dust/mist from the material is excessive (air concentration is greater than the TLV or health effects are noticed), immediately remove the affected person(s) to fresh air. Call a physician if symptoms develop or persist.

Ingestion — If material is ingested, immediately contact a poison control center. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth thoroughly. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. If swallowed, induce vomiting immediately as directed by medical personnel. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician — Symptoms may be delayed.

General advice — Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties — Flammable by OSHA criteria. Vapor or gas may spread to distant ignition sources and flash back. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media — Powder. Alcohol resistant foam. Water. Water spray. Water fog. Carbon dioxide (CO2).

Unsuitable extinguishing media — Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters — Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

Fire fighting equipment/instructions — In case of fire and/or explosion do not breathe fumes. In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods — Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental Release Measures

Personal precautions — Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the MSDS.

Environmental precautions — Do not contaminate water.

Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Stop the flow of material, if this is without risk. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Isolate area until gas has dispersed. Clean contaminated surface thoroughly. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). For waste disposal, see section 13 of the MSDS. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling	Vapors may form explosive mixtures with air. Do not handle or store near an open flame, heat or other sources of ignition. Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Do not re-use empty containers. Do not get this material in contact with eyes. Do not get this material in contact with skin. Avoid prolonged exposure. Use only in area provided with appropriate exhaust ventilation. Wash thoroughly after handling.
Storage	Keep away from heat, sparks, and flame. Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Keep in an area equipped with sprinklers. Use care in handling/storage. Store away from incompatible materials (see Section 10 of the MSDS). Level 1 Aerosol (NFPA 30B)

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Isopropyl Alcohol (CAS 67-63-0)	BEI	40 mg/l
Methanol (CAS 67-56-1)	BEI	15 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon Dioxide (CAS 124-38-9)	STEL	30000 ppm	
	TWA	5000 ppm	
Ethylene Glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Isopropyl Alcohol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	
Methanol (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Carbon Dioxide (CAS 124-38-9)	PEL	9000 mg/m3
		5000 ppm
Isopropyl Alcohol (CAS 67-63-0)	PEL	980 mg/m3
		400 ppm
Methanol (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
Propane (CAS 74-98-6)	PEL	1800 mg/m3
		1000 ppm

Engineering controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye / face protection	Do not get in eyes. Wear safety glasses with side shields (or goggles).
Skin protection	Do not get this material in contact with skin. Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing.
Respiratory protection	If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.
General hygiene considerations	Do not get this material in contact with eyes. When using, do not eat, drink or smoke. Do not get this material in contact with skin. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

Appearance	Compressed liquefied gas.
Auto-ignition temperature	502.49 °F (261.38 °C) estimated
Boiling point	164.28 °F (73.49 °C) estimated
Color	Clear.
Flammability limits in air, upper, % by volume	12 % estimated
Flammability limits in air, lower, % by volume	6.7 % estimated
Flash point	-156.00 °F (-104.44 °C) Propellant estimated
Form	Aerosol.
Odor	Alcoholic.
Odor threshold	Not available.
pH	9.5 - 10.5 estimated
Physical state	Gas.
Solubility (water)	Not available.
Specific gravity	0.837 estimated estimated
Vapor pressure	95 - 105 psig @ 70F estimated
Other data	
Heat of combustion	16.66 kJ/g estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological Information

Toxicological data

Product	Species	Test Results
Fast Acting Winshield De-Icer (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	19072.4629 mg/kg, estimated
		72.9714 ml/kg, estimated
	Rat	14212 mg/kg
Inhalation		
LC50	Cat	133.3752 mg/l, 4.5 Hours, estimated
		68.2101 mg/l, 6 Hours, estimated
	Rat	99941.5938 mg/l, 4 Hours, estimated

Product	Species	Test Results
		72142.3516 mg/l, 15 Minutes, estimated
		136.6389 mg/l, 6 Hours, estimated
		110 mg/l/4h
Oral		
LD50	Cat	42576.1289 mg/kg, estimated
	Dog	9270.1455 mg/kg, estimated
	Guinea pig	12.3855 g/kg, estimated
	Monkey	3.1232 g/kg, estimated
	Mouse	8007.9565 mg/kg, estimated
	Rabbit	15.5465 g/kg, estimated
	Rat	
		29.3197 g/kg, estimated
Other		
LD50	Guinea pig	5553.0049 mg/kg, estimated
	Hamster	13359.3809 mg/kg, estimated
	Monkey	4.6848 g/kg, estimated
	Mouse	4502.0469 mg/kg, estimated
	Rabbit	2843.4802 mg/kg, estimated
	Rat	2470.4871 mg/kg, estimated

Components	Species	Test Results
Ethylene Glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Rabbit	9530 mg/kg
Oral		
LD50	Cat	1650 mg/kg
	Dog	5500 mg/kg
	Guinea pig	8.2 g/kg
	Mouse	14.6 g/kg
	Rat	5.89 g/kg
Other		
LD50	Mouse	5.8 g/kg
	Rat	2800 mg/kg
Isopropyl Alcohol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
Oral		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5.03 g/kg
	Rat	4.7 g/kg
Other		
LD50	Mouse	1509 mg/kg
	Rat	1099 mg/kg

Components	Species	Test Results
Methanol (CAS 67-56-1)		
Acute		
Dermal		
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Cat	85.41 mg/l, 4.5 Hours
		43.68 mg/l, 6 Hours
	Rat	64000 mg/l, 4 Hours
		87.5 mg/l, 6 Hours
Oral		
LD50	Dog	8000 mg/kg
	Monkey	2 g/kg
	Mouse	7300 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
Other		
LD50	Guinea pig	3556 mg/kg
	Hamster	8555 mg/kg
	Monkey	3 g/kg
	Mouse	4100 mg/kg
	Rabbit	1826 mg/kg
	Rat	2131 mg/kg
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442.847 mg/l, 15 Minutes
		658 mg/l/4h

* Estimates for product may be based on additional component data not shown.

Sensitization Not expected to be hazardous by OSHA criteria.

Acute effects Acute LD50: 14212 mg/kg, Rat, Dermal

Local effects Components of the product may be absorbed into the body through the skin. Contact may irritate or burn eyes.

Chronic effects Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Prolonged or repeated exposure may cause lung injury. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

ACGIH Carcinogens

Ethylene Glycol (CAS 107-21-1)	A4 Not classifiable as a human carcinogen.
Isopropyl Alcohol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.

Skin corrosion/irritation Not expected to be hazardous by OSHA criteria.

Epidemiology Hazardous by OSHA criteria.

Mutagenicity Not expected to be hazardous by OSHA criteria.

Neurological effects Hazardous by OSHA criteria.

Reproductive effects Not expected to be hazardous by OSHA criteria.

Teratogenicity Not expected to be hazardous by OSHA criteria.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

Product		Species	Test Results
Fast Acting Winshield De-Icer (CAS Mixture)			
Algae	IC50	Algae	10061 mg/L, 72 Hours
Crustacea	EC50	Daphnia	21935.8262 mg/l, 48 hours, estimated
Fish	LC50	Fish	18645 mg/L, 96 Hours
Components		**Species**	**Test Results**
Ethylene Glycol (CAS 107-21-1)			
Crustacea	EC50	Daphnia	46300 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	8050 mg/l, 96 hours
Isopropyl Alcohol (CAS 67-63-0)			
Algae	IC50	Algae	1000.0001 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Methanol (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity LC50: 18645 mg/L, Fish, 96.00 Hours
IC50: 10061 mg/L, Algae, 72.00 Hours
Components of this product have been identified as having potential environmental concerns.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability Not available.

Bioaccumulation / Accumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

Ethylene Glycol	-1.36
Isopropyl Alcohol	0.05
Methanol	-0.77
Propane	2.36

Partition coefficient

Ethylene Glycol	-1.36
Isopropyl Alcohol	0.05
Methanol	-0.77
Propane	2.36

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 F
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

US RCRA Hazardous Waste U List: Reference

Methanol (CAS 67-56-1) U154

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Dispose of this material and its container at hazardous or special waste collection point. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1
Subsidiary hazard class	None
Special precautions	Read safety instructions, MSDS and emergency procedures before handling.

Additional information:

Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2013, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/13 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable, containing substances in Division 6.1, Packing Group III
Transport hazard class(es)	2.1
Subsidiary class(es)	6.1
Labels required	2.1, 6.1
ERG code	10P
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.
Packaging Exceptions	LTD QTY

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS
Transport hazard class(es)	2.1
Subsidiary class(es)	6.1
Labels required	2.1, 6.1
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
Packaging Exceptions	NOT a LTD QTY

IATA; IMDG

15. Regulatory Information

US federal regulations	OSHA Process Safety Standard: This material is not known to be hazardous by the OSHA Highly Hazardous Process Safety Standard, 29 CFR 1910.119. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene Glycol (CAS 107-21-1)	1.0 %
Methanol (CAS 67-56-1)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene Glycol (CAS 107-21-1)	Listed.
Methanol (CAS 67-56-1)	Listed.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA (Superfund) reportable quantity

Methanol: 5000
Ethylene Glycol: 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
Section 302 extremely hazardous substance	No
SARA 311/312 Hazardous chemical	No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

State regulations

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

US - New Jersey RTK - Substances: Listed substance

Carbon Dioxide (CAS 124-38-9)	Listed.
Ethylene Glycol (CAS 107-21-1)	Listed.
Isopropyl Alcohol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Propane (CAS 74-98-6)	Listed.

US. Pennsylvania RTK - Hazardous Substances

Carbon Dioxide (CAS 124-38-9)	Listed.
Ethylene Glycol (CAS 107-21-1)	Listed.
Isopropyl Alcohol (CAS 67-63-0)	Listed.

Methanol (CAS 67-56-1)	Listed.
Propane (CAS 74-98-6)	Listed.

16. Other Information

Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available. 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.
This data sheet contains changes from the previous version in section(s):	This document has undergone significant changes and should be reviewed in its entirety.