

FROSTFREE & FROSTFREE V

SECTION 1. IDENTIFICATION

Product Identifier	FROSTFREE & FROSTFREE V
Other Means of Identification	FROSTFREE, FROSTFREE V -2, -3
Other Identification	Liquid
Product Family	Antifreeze/Heat Transfer Agent
Recommended Use	Antifreeze.
Restrictions on Use	For Industrial Use Only. KEEP AWAY FROM CHILDREN.
Manufacturer/Supplier Identifier	Velocity Chemicals Ltd., Unit #1- 9515 190th Street, Surrey, B.C. CANADA, V4N3S1, 604-881-4700, www.velocitychemicals.com
Emergency Phone No.	Not Available
SDS No.	0480
Date of Preparation	November 09, 2023

SECTION 2. HAZARD IDENTIFICATION

Classification

Flammable liquid - Category 2; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 3; Acute toxicity (Inhalation) - Category 2; Skin irritation - Category 2; Eye irritation - Category 2B; Reproductive toxicity - Category 2; Specific target organ toxicity (single exposure) - Category 1; Specific target organ toxicity (repeated exposure) - Category 2

Label Elements



Danger

Highly flammable liquid and vapour.
 Toxic in contact with skin.
 Fatal if inhaled.
 May cause mild to moderate skin irritation.
 May cause moderate to severe eye irritation.
 Causes damage to organs.
 Prolonged or repeated exposure may be toxic to reproductive system.
 May cause damage to organs through prolonged or repeated exposure.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 Use proper grounding procedures when handling.

Use only in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear respiratory protection (NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator).

Wash hands and skin thoroughly after handling.

Response:

Take off contaminated clothing and wash it before reuse.

IF ON SKIN: Wash with plenty of water for 15-20 minutes.

If skin irritation occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing for 15-20 minutes.

If eye irritation persists: Get medical advice/attention.

IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention if you feel unwell.

Storage:

Store in a cool, dry place away from incompatibles. Do not mix with any other chemicals. Keep container closed when not in use. Keep from freezing. Keep temperatures > 4 ° C and < 30 ° C.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Repeated exposure may cause skin dryness or cracking.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Methanol	67-56-1	90-100	Not applicable	

Notes

Concentrations are expressed in % weight/weight.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move victim to fresh air. Apply artificial respiration if necessary. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Give large amounts of water if conscious. Do not induce vomiting. Get medical advice or attention if you feel unwell or are concerned.

First-aid Comments

Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to the Central Nervous System (CNS), eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and

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serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended.

Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

Most Important Symptoms and Effects, Acute and Delayed

At high concentrations if on skin: may cause mild to moderate irritation. Symptoms include slight redness and swelling. Symptoms may also include effects described for inhalation (see Section 11). If in eyes: causes moderate to severe irritation. The vapour also irritates the eyes. Symptoms include sore, red eyes, and tearing. If inhaled: may cause respiratory irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Symptoms may also include effects described for inhalation (see Section 11).

Immediate Medical Attention and Special Treatment

Target Organs

Nervous system, eyes, respiratory system, kidneys, liver.

Special Instructions

Not applicable.

Medical Conditions Aggravated by Exposure

Asthma, dermatitis, respiratory conditions, eye conditions, skin conditions, kidney conditions, liver conditions.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Highly Flammable. Use extinguishing agent suitable for surrounding fire. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Highly flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Sensitive to static discharge.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde. other toxic vapours.

Special Protective Equipment and Precautions for Fire-fighters

Wear NIOSH/OSHA approved, self contained breathing apparatus for fire fighting situations. Use water spray to cool all nearby fire exposed surfaces.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Concentrated product: it is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

Review Section 7 (Handling) of this safety data sheet before proceeding with clean-up. Large spills or leaks: dike spilled product to prevent runoff. Recover material by vacuum or pump into a suitable waste container. Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Reuse material if possible, or otherwise dispose in accordance with local regulations.

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Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Use good hygiene practices. It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling.

Only use where there is adequate ventilation. Wear personal protective equipment to avoid direct contact with this chemical. Avoid repeated or prolonged skin contact. Do not get in eyes, on skin or on clothing. Avoid generating vapours or mists. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Use proper grounding procedures when handling.

Conditions for Safe Storage

Store in an area that is: cool, ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep temperatures > 4 ° C and < 30 ° C. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Methanol	200 ppm Skin	250 ppm Skin	200 ppm Skin	250 ppm Skin		

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. STEL = Short-term Exposure Limit. OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. AIHA® = AIHA® Guideline Foundation. WEEL® = Workplace Environmental Exposure Limit. Short-term TWA = Time-Weighted Average with specified time limit. TWA = Time-Weighted Average. C = Ceiling limit.

Appropriate Engineering Controls

Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, natural rubber, nitrile rubber, neoprene rubber.

Respiratory Protection

Wear a NIOSH approved self-contained breathing apparatus (SCBA) or supplied air respirator.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid. Particle Size: Not available
Odour	Alcoholic
Odour Threshold	4.2 - 5960 ppm
pH	Not applicable
Melting Point/Freezing Point	Not available (melting); -97.8 °C (freezing)
Boiling Range	64.7 °C

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Flash Point	11.0 °C (closed cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	0.792 at 20 °C
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None expected under normal conditions of storage and use.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Reacts with or incompatible with: strong oxidizing agents (e.g. perchloric acid), oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide). Prolonged contact with sensitive metals like aluminum may form flammable hydrogen gas.

Corrosive to: aluminum alloys, lead, magnesium.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; very toxic, flammable formaldehyde.

SECTION 11. TOXICOLOGICAL INFORMATION

Information presented below is for the entire product, unless otherwise specified.

Likely Routes of Exposure

Skin contact; eye contact; inhalation; skin absorption.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Methanol	1282 mg/L (rat) (4-hour exposure)	1187-2769 mg/kg (rat)	17000 mg/kg (rabbit)

Skin Corrosion/Irritation

May cause moderate or severe irritation. Symptoms include pain, redness, and swelling.

Serious Eye Damage/Irritation

May cause mild to moderate irritation to eyes. The vapour also irritates the eyes. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

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Inhalation

At high concentrations causes depression of the central nervous system, impaired vision and blindness. In some cases, there may be delayed effects on the nervous system. Symptoms may include headache, nausea, vomiting, dizziness, drowsiness and confusion. A severe exposure may cause stomach pain, muscle pain, difficult breathing and coma. Vision can be impaired and permanent blindness can result. There may be other permanent effects on the nervous system e.g. tremor, seizures. Concentrations in air exceeding 1000 ppm may cause irritation of the mucous membranes.

Skin Absorption

Effects are similar to those described in "Inhalation".

Aspiration Hazard

(Methanol) aspiration hazard possible if swallowed- can enter lungs and cause damage.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above. May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). May cause harmful effects on the kidneys, harmful effects on the liver.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Methanol	Not Listed	Not Listed	Not Listed	Not Listed

Not known to cause cancer.

Reproductive Toxicity

Development of Offspring

If inhaled: animal studies show effects on the offspring.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

In animals, high concentrations of methanol can increase the toxicity of other chemicals, particularly liver toxins like carbon tetrachloride. Ethanol significantly reduces the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

Other Information

Methanol is readily absorbed into the body following inhalation and ingestion. Skin absorption may occur if the skin is broken or exposure is prolonged. Once absorbed, methanol is rapidly distributed to body tissues. A small amount is excreted unchanged in exhaled air and the urine. The rest is first metabolized to formaldehyde, which is then metabolized to formic acid and/or formate. The formic acid and formate are eventually converted to carbon dioxide and water. In humans, methanol clears from the body, after inhalation or oral exposure, with a half-life of 1 day or more for high doses (greater than 1000 mg/kg) or about 1.5-3 hours for low doses (less than 100 mg/kg or 76.5-230 ppm (100-300 mg/m3)).

No information was located for: Effects on or via Lactation

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life, based on acute toxicity tests.

Acute Aquatic Toxicity

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
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Methanol	13-68 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour)	> 10000 mg/L (Daphnia magna (water flea); 48-hour)		7.1 mg/L (Selenastrum capricornutum (algae); 48-hour)
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Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

Studies are not available.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Recycle and reuse product, if possible. Recommended disposal methods are for the product, as sold. (Used material may contain other hazardous contaminants). The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1230	METHANOL	3 (6.1)	II
US DOT	1230	METHANOL	3 (6.1)	II

Environmental Hazards Not applicable

Special Precautions Not applicable

Transport in Bulk according to International Maritime Organization Instruments

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

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

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 4 Flammability - 3 Instability - 0
SDS Prepared By Technical Department
Phone No. 604-881-4700

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