

1. Product and Company Identification

Product identifier	Universal Antifreeze
Other means of identification	Not available
Recommended use	Antifreeze/coolant
Recommended restrictions	None known.
Manufacturer information	Irving Blending & Packaging PO Box 1169 Saint John, NB E2L 4E6 CA Phone: 1.800.574.5823 Emergency Phone: 1.506.648.3060
Supplier	See above.

2. Hazards Identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral Reproductive toxicity Specific target organ toxicity, repeated exposure	Category 4 Category 1B Category 2
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		

Signal word	Danger
Hazard statement	Harmful if swallowed. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
Precautionary statement	
Prevention	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor.
Response	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF exposed or concerned: Get medical advice/attention.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS 2015: Health Hazard(s) not otherwise classified (HNOC)	None known
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
1,2-Ethanediol		107-21-1	99

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First Aid Measures

Inhalation	If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Eye contact	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. Avoid contact with eyes and skin. Wear suitable protective clothing. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media	Water fog. Dry chemical powder. Alcohol resistant foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Not available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep out of low areas. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Use personal protective equipment as required. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep container tightly closed. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
	STEL	50 ppm	Vapor.
	TWA	20 mg/m3	Particulate.
		10 mg/m3	Particulate.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	127 mg/m3	Vapor and mist.
		50 ppm	Vapor and mist.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
1,2-Ethanediol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended.

Skin protection

Hand protection Wear protective gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not applicable.

General hygiene considerations When using, do not eat, drink or smoke. 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. Wash hands after handling and before eating.

9. Physical and Chemical Properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid.

Color	Purple
Odor	Odorless
Odor threshold	25 ppm
pH	7
Melting point/freezing point	8.6 °F (-13 °C) / -29.2 °F (-34 °C)
Initial boiling point and boiling range	386.6 °F (197 °C) @ 760 mmHg
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	240.1 °F (115.6 °C) Cleveland Open Cup 240.8 °F (116.0 °C) Tagliabue
Evaporation rate	0 (BuAc=1)
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	> 3.2
Flammability limit - upper (%)	< 15.3
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.008 kPa (0.06 mmHg)
Vapor density	2.1 (Air = 1)
Relative density	1.12 - 1.15
Solubility(ies)	Complete
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	21 mPa·s
Other information	
VOC (Weight %)	98.2% w/w (ISO 11890-1)

10. Stability and Reactivity

Reactivity	This product may react with oxidizing agents.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Information on likely routes of exposure	
Ingestion	Harmful if swallowed.
Inhalation	Prolonged inhalation may be harmful. May cause damage to organs by inhalation.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.
Information on toxicological effects	
Acute toxicity	Harmful if swallowed. Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.

Components	Species	Test Results
1,2-Ethanediol (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	9500 mg/kg
<i>Inhalation</i>		
LC50	Rat	2725 mg/m ₃ , 4 hr
<i>Oral</i>		
LD50	Cat	1650 mg/kg
	Dog	5500 mg/kg
	Guinea pig	6600 mg/kg
	Human	1110 - 1665 mg/kg
	Mouse	7500 mg/kg
	Rabbit	5000 mg/kg
	Rat	5890 mg/kg
Skin corrosion/irritation		Prolonged skin contact may cause temporary irritation.
Exposure minutes		Not available.
Erythema value		Not available.
Oedema value		Not available.
Serious eye damage/eye irritation		Direct contact with eyes may cause temporary irritation.
Corneal opacity value		Not available.
Iris lesion value		Not available.
Conjunctival reddening value		Not available.
Conjunctival oedema value		Not available.
Recover days		Not available.
Respiratory or skin sensitization		
Canada - Alberta OELs: Irritant		
1,2-Ethanediol (CAS 107-21-1)		Irritant
Respiratory sensitization		Not available.
Skin sensitization		This product is not expected to cause skin sensitization.
Mutagenicity		No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity		This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
ACGIH Carcinogens		
1,2-Ethanediol (CAS 107-21-1)		A4 Not classifiable as a human carcinogen.
Canada - Manitoba OELs: carcinogenicity		
ETHYLENE GLYCOL, AEROSOL ONLY (CAS 107-21-1)		Not classifiable as a human carcinogen.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity		May damage fertility or the unborn child.
Teratogenicity		Not available.
Specific target organ toxicity - single exposure		Not classified.
Specific target organ toxicity - repeated exposure		May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard		Not available.
Chronic effects		Prolonged inhalation may be harmful. May cause damage to organs through prolonged or repeated exposure.

12. Ecological Information

Ecotoxicity	See below
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Ecotoxicological data			
Components	Species	Test Results	
1,2-Ethanediol (CAS 107-21-1)			
Crustacea	EC50	Daphnia	46300 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	8050 mg/L, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Mobility in general	Not available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number	UN3082
Proper shipping name	Environmentally hazardous substances, liquid, n.o.s.
Technical name	1,2-Ethanediol
Hazard class	9
Packing group	III
Special provisions	8, 146, 173, 335, IB3, T4, TP1, TP29
Packaging exceptions	155
Packaging non bulk	203
Packaging bulk	241

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

DOT



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (SOR/2015-17) and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions

Not applicable

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,2-Ethanediol (CAS 107-21-1) Listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
1,2-Ethanediol	107-21-1	99

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

1,2-Ethanediol (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations**US - California Hazardous Substances (Director's): Listed substance**

1,2-Ethanediol (CAS 107-21-1) Listed.

US - Illinois Chemical Safety Act: Listed substance

1,2-Ethanediol (CAS 107-21-1)

US - Louisiana Spill Reporting: Listed substance

1,2-Ethanediol (CAS 107-21-1) Listed.

US - Minnesota Haz Subs: Listed substance

1,2-Ethanediol (CAS 107-21-1) Listed.

US - New Jersey RTK - Substances: Listed substance

1,2-Ethanediol (CAS 107-21-1)

US - Texas Effects Screening Levels: Listed substance

1,2-Ethanediol (CAS 107-21-1) Listed.

US - Washington Chemical of High Concern to Children: Listed substance

1,2-Ethanediol (CAS 107-21-1)

US. Massachusetts RTK - Substance List

1,2-Ethanediol (CAS 107-21-1)

US. New Jersey Worker and Community Right-to-Know Act

1,2-Ethanediol (CAS 107-21-1)

US. Pennsylvania Worker and Community Right-to-Know Law

1,2-Ethanediol (CAS 107-21-1)

US. Rhode Island RTK

1,2-Ethanediol (CAS 107-21-1)

US. California Proposition 65

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

Inventory status

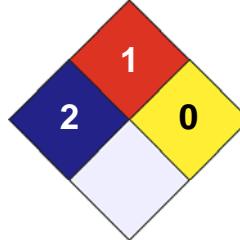
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.