

Universal Antifreeze/Coolant

SECTION 1. IDENTIFICATION

Product Identifier	Universal Antifreeze/Coolant
Other Means of Identification	16-242, 16-244, 16-245, 26-248, 26-248-1000, 26-248PC, 35-249FS, 36-241SO, 36-244APREXP, 36-244AX, 36-244AXEXP, 36-244C, 36-244CHR, 36-244CQ, 36-244E, 36-244FEDEXP, 36-244FS, 36-244PC, 36-244PM, 36-244PMEXP, 36-244PPEXP, 36-244PROFEXP, 36-244RAD, 36-244SO, 36-244SP, 36-244SPROEXP, 36-244STP, 36-244STPEXP, 36-244TH, 36-244TOT, 36-244U/N, 36-244UFA, 36-244UG, 36-245UFA, 36-249AXEXP, 36-249CHR, 36-249E, 36-249SPROEXP, 36-254SO, 86-244-PRO, 86-244SY, 86-249, 86-249-1000, BULK-16245, BULK-86245, BULK-TRUCK26429
Recommended Use	Please refer to Product label.
Restrictions on Use	None known.
Manufacturer / Supplier	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
Emergency Phone No.	CANUTEC, 613-996-6666, 24 Hours
SDS No.	1552

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) - Category 4; Reproductive Toxicity - Category 1B; Specific target organ toxicity (repeated exposure) - Category 2

GHS Label Elements



Signal Word:
Danger

Hazard Statement(s):

H302	Harmful if swallowed.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure following skin contact and/or if swallowed.

Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fume, mist, vapours, spray.
P264	Wash hands and skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Product Identifier: Universal Antifreeze/Coolant
SDS No.: 1552
Date of Preparation: October 01, 2015

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P330 Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.

Storage:
Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal:
Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

Note:
0.1-1
% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Ethylene glycol	107-21-1	60-100	
Sodium Salt of Boron Acid	CBI*		

Notes

The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell or are concerned.

Skin Contact

Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Call a Poison Centre or doctor if you feel unwell or are concerned. Clean clothing, shoes and leather goods.

Eye Contact

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

Ingestion

Rinse mouth with water. Call a Poison Centre or doctor if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If swallowed: There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

Product Identifier: Universal Antifreeze/Coolant

SDS No.: 1552

Date of Preparation: October 01, 2015

Page 02 of 08

Immediate Medical Attention and Special Treatment

Target Organs

Digestive system, nervous system, heart, digestive system, kidneys, skin.

Special Instructions

The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, central nervous system depression and kidney injury. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. Treatment with ethanol to inhibit the metabolism of glycol to oxalate. Early administration of ethanol may counter the toxic effects of ethylene glycol (cardiopulmonary effects attributed to metabolic acidosis and renal damage).

Hemodialysis or peritoneal dialysis have been of benefit. Pre-existing respiratory and skin disorders may be aggravated by over-exposure to this product. Treat symptomatically and supportively.

Medical Conditions Aggravated by Exposure

Dermatitis.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Chemical

Can ignite if strongly heated.

In a fire, the following hazardous materials may be generated: irritating chemicals.

Special Protective Equipment and Precautions for Fire-fighters

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills.

See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any

Product Identifier: Universal Antifreeze/Coolant

SDS No.: 1552

Date of Preparation: October 01, 2015

Page 03 of 08

other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Ethylene glycol	10 mg/m3	100 mg/m3	Not established	50 ppm		
Sodium Salt of Boron Acid	Not established	Not established	Not established	Not established		

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air.

Individual Protection Measures

Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

Skin Protection

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

Respiratory Protection

Not normally required if product is used as directed. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear green liquid.
Odour	Not available
Odour Threshold	Not available
pH	Not available
Melting Point/Freezing Point	-13 °C (9 °F) (Ethylene glycol) (melting); -13 °C (9 °F) (Ethylene glycol) (freezing)
Initial Boiling Point/Range	197 °C (387 °F)
Flash Point	111 °C (232 °F) (closed cup) (Ethylene glycol)
Evaporation Rate	< 0.01
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	21.6 - 22.0% (Ethylene glycol) (upper); 3.2% (Ethylene glycol) (lower)
Vapour Pressure	0.090 mm Hg (0.012 kPa) at 20 °C (Ethylene glycol)
Vapour Density (air = 1)	2.14 (estimated)
Relative Density (water = 1)	1.12 - 1.15 at 20 °C (Ethylene glycol)

Product Identifier: Universal Antifreeze/Coolant
 SDS No.: 1552
 Date of Preparation: October 01, 2015

Solubility	Not available in water; Soluble in all proportions in ketones (e.g. acetone).
Partition Coefficient, n-Octanol/Water (Log Kow)	-1.36 at 20 °C (Ethylene glycol)
Auto-ignition Temperature	398 °C (748 °F) (Ethylene glycol)
Decomposition Temperature	Not available
Viscosity	18.86 mm ² /s at 20 °C (estimated) (kinematic); 21 mPa.s at 20 °C (estimated) (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

High temperatures. Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 111.0 °C (231.8 °F)

Incompatible Materials

Slightly reactive or incompatible with the following materials: oxidizing agents (e.g. peroxides), strong acids (e.g. hydrochloric acid), strong bases (e.g. sodium hydroxide).

Not corrosive to metals.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethylene glycol	2725 mg/m ³ (rat) (4-hour exposure)	4700 mg/kg (rat)	9530 mg/kg (rabbit)
Sodium Salt of Boron Acid	Not available	Not available	Not available

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

Skin Corrosion/Irritation

May cause moderate or severe irritation based on information for closely related materials. Symptoms include pain, redness, and swelling.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At high concentrations vapour may cause lung injury, nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Skin Absorption

At high concentrations may cause Symptoms may include redness, rash, swelling and itching.

Ingestion

Toxic, can cause death based on information for closely related materials. depression of the central nervous system, and effects on the heart and kidneys. In some cases, there may be delayed effects on the nervous system. There are 3 stages of effects, which can overlap. Early symptoms can include upset stomach, slurred speech, clumsiness, drowsiness, and convulsions. Second stage symptoms can include rapid heartbeat and breathing, bluish lips and skin, fluid in the lungs and heart failure. In the last stage, there can be kidney stones and kidney damage with lower back pain, and increased then decreased urine production. There may be delayed nervous system effects such as paralysis of the face, clumsiness, impaired hearing and blurred vision. Death can occur at any stage.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

May cause Following skin contact and/or if swallowed: harmful effects on the kidneys.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ethylene glycol	Not Listed	A4	Not Listed	Not Listed
Sodium Salt of Boron Acid	Not Listed	A4	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

If swallowed: at high concentrations animal studies show effects on the offspring. Known to cause: decreased weight. Embryotoxic (late resorptions) teratogenic(external, soft tissue and skeletal defects) may harm the unborn child. (Sodium Salt of Boron Acid)

Sexual Function and Fertility

May cause effects on sexual function and/or fertility. (Sodium Salt of Boron Acid)

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

Other Information

TOXIC SUBSTANCE: KEEP AWAY FROM ANIMALS AND SMALL CHILDREN.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Acute Aquatic Toxicity

Product Identifier: Universal Antifreeze/Coolant

SDS No.: 1552

Date of Preparation: October 01, 2015

Chemical Name	LC50 Fish	EC50 Crustacea	ErC50 Aquatic Plants	ErC50 Algae
Ethylene glycol	18500 mg/L (Oncorhynchus mykiss (rainbow trout); 96-hour; fresh water)	74000 mg/L (Daphnia magna (water flea); 24 hr)		
Sodium Salt of Boron Acid	Not available	Not available		

Chronic Aquatic Toxicity

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Ethylene glycol	39140 mg/L (Oncorhynchus mykiss (rainbow trout))		24000 mg/L (Daphnia magna (water flea))	
Sodium Salt of Boron Acid	Not available	Not available		

Persistence and Degradability

No information was located.

Bioaccumulative Potential

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

Mobility in Soil

No information was located.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG Regulations.

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Ethylene glycol)	9	III

Environmental Hazards Not applicable (Ethylene glycol)

Special Precautions for User Please note: In single containers of 5000 lbs capacity or less this product is exempt from DOT regulations (non regulated). Does not require label or placards. Regulated Quantity (RQ)= 5000 lbs (2268 kg) (as ethylene glycol) For bulk shipments equal to or greater than Regulated Quantity (RQ), please adhere to classification as outlined in DOT Classification section.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Product Identifier: Universal Antifreeze/Coolant

SDS No.: 1552

Date of Preparation: October 01, 2015

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

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.

Additional USA Regulatory Lists

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause birth defects.

WARNING: This product contains chemicals known to the State of California to cause Reproductive Toxicity.

SECTION 16. OTHER INFORMATION

SDS Prepared By Compliance and Regulatory Department

Phone No. 905-878-5544

Date of Preparation October 01, 2015

Additional Information We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative.

Please send us your request by visiting our website at www.recochem.com.

Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.

Disclaimer

Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Product Identifier: Universal Antifreeze/Coolant

SDS No.: 1552

Page 08 of 08

Date of Preparation: October 01, 2015