



SAFETY DATA SHEET

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

Section 1: Product and Company Identification

Product Name:	Radnor Cooling Fluid Low Temperature
Product Identifier:	Cooling Fluid
Product Use:	Cooling Fluid for Low Temperature Operations
Item Code(s):	64000246, 64000248
SDS Code:	025R
Supplier:	Radnor
Physical Address:	259 North Radnor - Chester Road - Suite 100 Radnor, PA 19087-5283
Emergency Phone:	866-734-3438
Date of Preparation:	March 21, 2019
OSHA Regulatory Status:	Regulated
WHMIS Classification:	D-2A

Section 2: Hazard Identification

Classification of the Substance or Mixture



GHS07

Acute Toxicity	Category 4
Eye Irritant	Category 2B

Hazard Statements

H302	Harmful if swallowed.
H320	Causes eye irritation.

Information Concerning Particular Hazards for Human and Environment

The product does not have to be labeled due to the calculation procedure of international guidelines.

Classification System

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

Risk Phrases

WARNING! Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.

Safety Phrases

Keep out of the reach of children.
Keep away from food, drink and animal feeding stuffs.
Wear suitable protective clothing.
If swallowed, seek medical advice immediately and show this container or label.

HAZARD DESCRIPTION

WHMIS Hazard Class

D2A - Very toxic material causing other toxic effects.



NFPA Ratings (scale 0-4)



Health = 2

Fire = 0

Reactivity = 0

Section 3: Composition and Information on Ingredients

CHEMICAL CHARACTERIZATION: Mixtures

DESCRIPTION: Mixture of the substances listed below with nonhazardous additions.

Dangerous Components	CAS #	Classification	Weight %*
ETHYLENE GLYCOL	107-21-1	Acute Toxicity 4, H302	10 - <25%

*Exact concentrations are being withheld as trade secrets.

Section 4: First Aid Measures

First Aid Measures for Different Exposure Routes

GENERAL INFORMATION: No special measures required.

INHALATION: Supply fresh air, consult doctor in case of complaints.

SKIN CONTACT: Generally the product does not irritate the skin.

EYE CONTACT: Rinse opened eye for several minutes under running water.

INGESTION: If symptoms persist consult doctor.

Most Important Symptoms and Effects, Both Acute and Delayed

No further relevant information available.

Indication of Any Immediate Medical Attention and Special Treatment if Needed

No further relevant information available.

Section 5: Fire Fighting Measures

SUITABLE EXTINGUISHING AGENTS: CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE: No further relevant information available.

PROTECTIVE EQUIPMENT: No special measures required.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

PERSONAL PRECAUTIONS: Not required.

Environmental Precautions

ENVIRONMENTAL PRECAUTIONS: Dilute with plenty of water. Do not allow to enter sewers, surface or ground water.

Methods and Material for Containment and Cleaning Up

METHODS FOR CONTAINMENT: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

METHODS FOR CLEANING UP: Smaller quantities can be disposed of with household waste. For larger quantities, place in a sealed container and label as waste. Place in a safe area and comply with all federal, state, provincial and local regulations for disposal.

RECOMMENDED CLEANSING AGENT: Water, if necessary with cleansing agents.

Reference to Other Sections

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling

No special measures required.

Information about Protection Against Explosions and Fires

No special measures required.

Conditions for Safe Storage, Including Any Incompatibilities

REQUIREMENTS TO BE MET BY STOREROOMS AND RECEPTACLES: No special requirements.

INFORMATION ABOUT STORAGE IN ONE COMMON STORAGE FACILITY: Not required.

FURTHER INFORMATION ABOUT STORAGE CONDITIONS: None.

Specific End Use

Cooling fluid for welding systems.

Section 8: Exposure Controls / Personal Protection

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL SYSTEMS: No further data; see item 7.

Control Parameters

EXPOSURE GUIDELINES: Components with limit values that require monitoring at the workplace

Chemical Name	CAS#	Exposure Limits
ETHYLENE GLYCOL	107-21-1	Short-term value: C 100* 20** mg/m ³ , C 50*** ppm Long-term value: 10** mg/m ³

* aerosol; ** particulate; *** vapor

ADDITIONAL INFORMATION: The lists that were valid during the creation were used as basis.

Individual Protection Measures, Such as Personal Protective Equipment

GENERAL PROTECTIVE AND HYGIENIC MEASURES: The usual precautionary measures for handling chemicals should be followed.

BREATHING EQUIPMENT: Not required.

PROTECTION OF HANDS: The glove material has to be impermeable and resistant to the product/ the substance/the preparation. Selection of the glove material depends on consideration of the penetration times, rates of diffusion and the degradation.

MATERIAL OF GLOVES: The selection of the suitable glove does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

EYE PROTECTION: Goggles recommended during refilling.

Section 9: Physical and Chemical Properties

<u>FORM</u> :	Liquid
<u>COLOR</u> :	Colorless
<u>ODOR</u> :	Odorless
<u>ODOR THRESHOLD</u> :	Not determined.
<u>pH-VALUE AT 20°C</u> :	6
<u>Property</u>	<u>Values</u>
<u>MELTING POINT/MELTING RANGE</u> :	-7°C
<u>BOILING POINT/BOILING RANGE</u> :	93°C
<u>FLASH POINT</u> :	Not applicable.
<u>FLAMMABILITY (SOLID, GASEOUS)</u> :	Not applicable.
<u>IGNITION TEMPERATURE</u> :	410°C
<u>DECOMPOSITION TEMPERATURE</u> :	Not determined.
<u>AUTO-IGNITION</u> :	Product is not self-igniting.
<u>DANGER OF EXPLOSION</u> :	Product does not present an explosion hazard.
<u>EXPLOSION LIMITS</u> :	
Lower:	3.2 Vol %
Upper:	53.0 Vol %
<u>VAPOR PRESSURE AT 20°C</u> :	24 mm Hg
<u>DENSITY AT 20°C</u> :	1.025 g/cm ³
<u>RELATIVE DENSITY</u> :	Not determined.
<u>VAPOR DENSITY AT 20°C</u> :	.610 (AIR = 1)
<u>EVAPORATION RATE AT 20°C</u> :	1.0 (BA =1)
<u>SOLUBILITY IN/MISCIBILITY WITH WATER</u> :	Fully miscible.
<u>PARTITION COEFFICIENT: (n-octanol/water)</u> :	Not determined.
<u>VISCOSITY</u> :	
Dynamic:	Not determined.
Kinematic:	Not determined.
<u>SOLVENT CONTENT</u> :	
Organic solvents:	0.0%

Other Information

No further relevant information available.

Section 10: Stability and Reactivity

THERMAL DECOMPOSITION/CONDITIONS TO BE AVOIDED: No decomposition if used according to specifications.

POSSIBILITY OF HAZARDOUS REACTIONS: No dangerous reactions known.

CONDITIONS TO AVOID: No further relevant information available.

INCOMPATIBLE MATERIALS: No further relevant information available.

HAZARDOUS DECOMPOSITION PRODUCTS: No dangerous decomposition products known.

Section 11: Toxicological Information

Information on Toxicological Effects

- Acute toxicity

Component Information

Chemical Name	LD50 Oral	LD50 Dermal
ETHYLENE GLYCOL 107-21-1	5840 mg/kg (rat)	9530 mg/kg (rabbit)

Information on Toxicological Effects

SYMPTOMS: No further relevant information available.

Primary Irritant Effect

SKIN CORROSION/IRRITATION: No irritating effect.

EYE DAMAGE/IRRITATION: No irritating effect.

SENSITIZATION: No sensitizing effects known.

Additional Toxicological Information

The product is not subject to classification according to internally approved calculation methods for preparations. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

CARCINOGENICITY:

IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

NTP (National Toxicology Program)

None of the ingredients are listed.

Section 12: Ecological Information

Ecotoxicity

AQUATIC TOXICITY: No further relevant information available.

PERSISTENCE AND DEGRADABILITY: No further relevant information available.

Behavior in Environmental Systems

BIOACCUMULATIVE POTENTIAL: No further relevant information available.

MOBILITY IN SOIL: No further relevant information available.

Additional Ecological Information

GENERAL NOTES: Water Hazard Class 1 (self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

OTHER ADVERSE EFFECTS: No further relevant information available.

Section 13: Disposal Considerations

Waste Treatment Methods

WASTE DISPOSAL METHODS: Smaller quantities can be disposed of with household waste.

CONTAMINATED PACKAGING: Place in a sealed container and label as waste. Place in a safe area and comply with all federal, state, provincial and local regulations for disposal.

RECOMMENDED CLEANSING AGENT: Water, if necessary with cleansing agents.

Section 14: Transportation Information

UN-NUMBER

DOT, TDG, ADN, IMDG, IATA: Not available

UN Proper Shipping Name

DOT, TDG, ADN, IMDG, IATA: Not available

Transport Hazard Class(es)

DOT, TDG, ADN, IMDG, IATA
CLASS: Not available

Packing Group

DOT, TDG, IMDG, IATA: Not available

Environmental Hazards

Marine pollutant: No

Special Precautions for User

Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

UN "Model Regulation"

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Section 15: Regulatory Information

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

SARA

Section 355 (extremely hazardous substances):

None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):

107-21-1 ETHYLENE GLYCOL

TSCA (Toxic Substances Control Act):

All ingredients are listed.

PROPOSITION 65

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

CARCINOGENIC CATEGORIES

EPA (Environmental Protection Agency):

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH):

107-21-1 ETHYLENE GLYCOL

NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

OSHA-Ca (Occupational Safety and Health Administration):

None of the ingredients are listed.

CANADIAN SUBSTANCE LISTINGS

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian Ingredient Disclosure List (limit 0.1%):

None of the ingredients are listed.

Canadian Ingredient Disclosure List (limit 1%):

107-21-1 ETHYLENE GLYCOL

PRODUCT RELATED HAZARD INFORMATION:

Risk Phrases

Harmful if swallowed.

Safety Phrases

Keep out of the reach of children.

Keep away from food, drink and animal feeding stuffs.

Wear suitable protective clothing.

If swallowed, seek medical advice immediately and show this container or label.

Section 16: Other Information

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

This SDS format meets ANSI Z400.1-1998, OSHA 1910.1200 and WHMIS requirements. Radnor provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Product use and conditions of use are beyond the control of Radnor. Warranty of materials is limited to test results of product performance as detailed in certificates of compliance. Interpretation of test results is the responsibility of end-user. No other warranties, expressed or implied, are made.