

SAFETY DATA SHEET**SECTION 1. IDENTIFICATION****Product identifier used on the label**: **INSTANT TIRE REPAIR****Product Code(s)** : M1115C; M1128C (New formula)**Recommended use of the chemical and restrictions on use**: Temporary repair of tire punctures.
No restrictions on use known.**Chemical family** : Mixture.**Name, address, and telephone number of the supplier:****Radiator Specialty Co., of Canada**3-3055 Dundas St West, Suite 50
Mississauga, ON, Canada
L5L 3R8

Supplier's Telephone # : (905) 625-9117 (Mon. - Fri., 8 am - 4 pm)

24 Hr. Emergency Tel # : Not available.**Name, address, and telephone number of the manufacturer:**

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION**Classification of the chemical**

Opaque, milky white liquid contained in a pressurized aerosol can. Ammonia odour.

Most important hazards:

Contents under pressure. Container may explode if heated.

May cause damage to organs. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This product is packaged and sold as a consumer product. The Hazardous Products Act (HPA) does not apply to consumer products [Hazardous Products Act Section 12(j)]. For informational purposes, this product would have the following WHMIS classification:

Gases under pressure

Specific target organ toxicity, single exposure - Category 2

Label elements

This product is packaged and sold as a consumer product. The below WHMIS 2015 labeling information is being provided for informational purposes.

Hazard pictogram(s)*Signal Word*

WARNING!

Hazard statement(s)

Contains gas under pressure; may explode if heated.

May cause damage to organs.

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Precautionary statement(s)

Do not breathe mist or vapor. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product.

If exposed or concerned: Call a POISON CENTER or doctor/physician.

Store locked up. Protect from sunlight. Store in a well-ventilated place.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. May cause slight eye and skin irritation. Mild respiratory irritant. May cause gastrointestinal irritation. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Environmental precautions:

See Section 12 for more environmental information.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
1,3,3,3-Tetrafluoropropene	Trans-1,3,3,3-Tetrafluoroprop-1-ene	29118-24-9	M1115C contains: 23.1% M1128C contains: 28.4%
Ethylene glycol	1,2-Ethanediol 1,2-Dihydroxyethane EG	107-21-1	M1115C contains: 3.06% M1128C contains: 2.85%

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

- Ingestion* : Do not induce vomiting. Never give anything by mouth to an unconscious person. If exposed or concerned: Call a POISON CENTER or doctor/physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If exposed or concerned: Call a POISON CENTER or doctor/physician.
- Skin contact* : For skin contact, wash with soap and water while removing contaminated clothing. If exposed or concerned: Call a POISON CENTER or doctor/physician. Launder clothing before reuse.
- Eye contact* : Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.

Most important symptoms and effects, both acute and delayed

- : Mild respiratory irritant. May cause coughing and breathing difficulties.
Direct skin contact may cause temporary redness. Direct eye contact may cause temporary redness.
May cause damage to organs. May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Indication of any immediate medical attention and special treatment needed

- : Provide general supportive measures and treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable extinguishing media* : Water spray; Dry chemical; Carbon dioxide (CO₂); Foam
- Unsuitable extinguishing media* : Do not use a solid water stream as it may scatter and spread fire.

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Special hazards arising from the substance or mixture / Conditions of flammability

- : Not considered flammable. Contains gas under pressure; may explode if heated. Toxic fumes may be released during a fire.

Hazardous combustion products

- : Carbon oxides; Formaldehyde; Acrolein; Fluorocarbons; Hydrogen fluoride; Other unidentified organic compounds.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Shield personnel to protect from venting or rupturing containers. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions

- : Prevent product from entering drains, sewers, waterways and soil.

Methods and material for containment and cleaning up

- : Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. For spilled liquids: absorb spill with inert, non-combustible material such as sand, then place into suitable containers. Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. . Refer to Section 13 for disposal of contaminated material.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Use with adequate ventilation. Wear suitable protective equipment during handling. Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Pressurized container: Do not pierce or burn, even after use. Always replace cap after use. Wash thoroughly after handling.

Conditions for safe storage

- : Store in cool/well-ventilated place. Store locked up. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Protect from sunlight.

Incompatible materials

- : Strong oxidizing agents; Acids; Bases

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Exposure Limits:</u>				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
1,3,3,3-Tetrafluoropropene	800 ppm (cis and trans isomers) (AIHA WEEL)	N/Av	N/Av	N/Av
Ethylene glycol	100 mg/m ³ (aerosol) (Ceiling)	N/Av	50 ppm (final rule limit)	N/Av

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Exposure controls

Ventilation and engineering measures

: Use with adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

Respiratory protection : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Refer to CSA Z94.3 or other appropriate standards. Advice should be sought from respiratory protection specialists.

Skin protection : Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.

Eye / face protection : Wear as appropriate: Tightly fitting safety goggles; Safety glasses with side shields

Other protective equipment : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Opaque, milky white liquid contained in a pressurized aerosol can.

Odour : Ammonia odour.

Odour threshold : N/Av

pH : 9.3 - 9.8

Melting/Freezing point : N/Av

Initial boiling point and boiling range

: 100°C (212°F)

Flash point : None.

Flashpoint (Method) : N/Av

Evaporation rate (BuAe = 1) : N/Av

Flammability (solid, gas) : Not applicable.

Lower flammable limit (% by vol.)

: N/Av

Upper flammable limit (% by vol.)

: N/Av

Oxidizing properties : None known.

Explosive properties : Not explosive

Vapour pressure : 1.92 hPa (0.192 kPa) (estimated)

Vapour density : N/Av

Relative density / Specific gravity

: 1

Solubility in water : N/Av

Other solubility(ies) : N/Av

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: N/Av

Auto-ignition temperature : N/Av

Decomposition temperature : N/Av

Viscosity : N/Av

Volatiles (% by weight) : 71.16% (estimated)

Volatile organic Compounds (VOC's)

: N/Av

Absolute pressure of container

: N/Av

Flame projection length : None.

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Other physical/chemical comments

: Chemical heat of combustion: 0.5 kJ/g (estimated)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid : Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials : Strong oxidizing agents; Acids; Bases

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry ingestion : YES

Routes of exposure skin absorption

: YES

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Mild respiratory irritant. May cause coughing and breathing difficulties.

Sign and symptoms ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Sign and symptoms skin

: May cause mild skin irritation. Direct skin contact may cause temporary redness.

Sign and symptoms eyes

: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause temporary redness.

Potential Chronic Health Effects

: None known or reported by the manufacturer.

Mutagenicity

: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

: Not classifiable as a human carcinogen.
No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not classifiable as a reproductive toxin.
Contains ethylene glycol, which may cause teratogenic effects at doses which are not maternally toxic, based on animal data. However, the likelihood of developmental toxicity occurring in humans with occupational or consumer exposures is considered negligible, primarily because of the high doses needed to produce effects.
Not expected to have other reproductive effects.

Sensitization to material

: No data available to indicate product or components may be respiratory sensitizers.
No data available to indicate product or components may be skin sensitizers.

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Specific target organ effects : This material is classified as hazardous under Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification:
 Specific target organ toxicity, single exposure
 Category 2. May cause damage to organs.
 May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.

Mild effects may be seen in the following organs: Eyes; Skin; Respiratory system; Digestive system; Central nervous system; Liver.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye, respiratory and central nervous system disorders.

Synergistic materials

: None known or reported by the manufacturer.

Toxicological data

: No data is available on the product itself. The calculated ATE values for this mixture are:
 ATE oral = 35,577 mg/kg
 ATE inhalation (dust/mist) = 350 mg/L/4H

See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
1,3,3,3-Tetrafluoropropene	> 207 000 ppm	N/Ap (gas)	N/Ap (gas)
Ethylene glycol	4300 ppm (10.2 mg/L) (aerosol)	4000 mg/kg (rat) The estimated human lethal dose is: 1110 - 1665 mg/kg	9530 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
1,3,3,3-Tetrafluoropropene	29118-24-9	> 117 mg/L (common carp)	N/Av	None.
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
1,3,3,3-Tetrafluoropropene	29118-24-9	> 160 mg/L (Daphnia magna)	N/Av	None.
Ethylene glycol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L	None.

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Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
1,3,3,3-Tetrafluoropropene	29118-24-9	N/Av	> 170 mg/L/72hr (Green algae)	None.
Ethylene glycol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.

Persistence and degradability

- : The product itself has not been tested.
- The following ingredients are considered to be readily biodegradable: Ethylene glycol.

Bioaccumulation potential

- : The product itself has not been tested. See the following data for ingredient information.

Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
1,3,3,3-Tetrafluoropropene (CAS 29118-24-9)	1.6 (estimated)	N/Av
Ethylene glycol (CAS 107-21-1)	- 1.36	10 (Fish)

Mobility in soil : The product itself has not been tested.

Other Adverse Environmental effects

- : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS


Handling for Disposal

- : Refer to protective measures listed in sections 7 and 8.
- Dispose of in accordance with local regulations. Empty containers retain residue (liquid and/or vapour) and can be dangerous.

Methods of Disposal

- : Dispose of in accordance with federal, provincial and local hazardous waste laws.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	UN1950	AEROSOLS	2.2	None	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass.				

Special precautions for user : Appropriate advice on safety must accompany the package.

Environmental hazards

- : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

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

- : Not applicable.

SECTION 15 - REGULATORY INFORMATION

Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

Canadian National Pollutant Release Inventory (NPRI): This product contains the following substances listed on the NPRI: Ethylene glycol (Part 1, Group A Substance)

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

SAFETY DATA SHEET**US Federal Information:**

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECS</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>New Zealand IOC</u>
1,3,3,3-Tetrafluoropropene	29118-24-9	None known.	None known.	None known.	None known.	None known.	None known.	None known.
Ethylene glycol	107-21-1	203-473-3	Present	Present	(2)-230	KE-13169	Present	HSR001534

SECTION 16. OTHER INFORMATION**Legend**

: ACGIH: American Conference of Governmental Industrial Hygienists
 AICS: Australian Inventory of Chemical Substances
 ATE: Acute Toxicity Estimate
 CAS: Chemical Abstract Services
 CSA: Canadian Standards Association
 EC50: Effective Concentration 50%.
 EINECS: European Inventory of Existing Commercial chemical Substances
 ENCS: Existing and New Chemical Substances
 HSDB: Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 IBC: Intermediate Bulk Container
 IECSC: Inventory of Existing Chemical Substances
 IMDG: International Maritime Dangerous Goods
 IOC: Inventory of Chemicals
 KECI: Korean Existing Chemicals Inventory
 KECL: Korean Existing Chemicals List
 LC: Lethal Concentration
 LD: Lethal Dose
 N/Ap: Not Applicable
 N/Av: Not Available
 NIOSH: National Institute of Occupational Safety and Health
 NOEC: No observable effect concentration
 NTP: National Toxicology Program
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 RTECS: Registry of Toxic Effects of Chemical Substances
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TSCA: Toxic Substance Control Act
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
 2. International Agency for Research on Cancer Monographs, searched 2016.
 3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2016 (Chempendium, HSDB and RTECS).
 4. Material Safety Data Sheets from manufacturer.
 5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2016.

Preparation Date (mm/dd/yyyy)

: 10/27/2016

Other special considerations for handling

: Provide adequate information, instruction and training for operators.

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<p><u>Prepared for:</u> Radiator Specialty Co. of Canada 3-3055 Dundas St West, Suite 50 Mississauga, ON, Canada, L5L 3R8 Telephone: 905-625-9117 (Mon. - Fri., 8 AM - 4 PM) Please direct all enquiries to Radiator Specialty.</p>	
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