

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Rapid Freeze™

SYNONYMS: None

PRODUCT CODES: RAP-FRZ

MANUFACTURER: Azer Scientific, Inc.

ADDRESS: 701 Hemlock Rd, Morgantown, PA 19543

CHEMTREC PHONE: 800-424-9300

SUPPORT: 610-524-5810

FAX: 610-901-3046

PRODUCT USE: LABORATORY USE ONLY* Rapid cooling of tissue and formalin fixed paraffin embedded tissue blocks.

USES ADVISED AGAINST: All other uses including use on in-tact skin.

PREPARED BY: CB

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Classification in accordance with paragraph (d) of § 1910.1200; Gas under pressure, Compressed gas Simple Asphyxiant, Category 1; May displace oxygen and cause rapid suffocation.



Signal Word: Warning!

Hazard Phrases	
H280	Contains gas under pressure; may explode if heated.

Precautionary Phrases	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251	Pressurized container: Do not pierce or burn, even after use.
P410+P403	Protect from sunlight. Store in a well-ventilated place.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% WT</u>
Halogenated hydrocarbon	811-97-2	80-100

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Immediately flush eyes with large amounts of water for at least 15 minutes (in case of frostbite, water should be lukewarm - not hot), lifting eyelids occasionally to facilitate irrigation. Get immediate medical attention if symptoms persist.

SKIN: Promptly flush skin with water until all the chemical is removed. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. In the absence of water, cover with a clean, soft cloth or similar covering. Call a physician.

INGESTION: Not a likely source of exposure.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.

SECTION 4 NOTES: NOTES TO PHYSICIAN: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used only in situations of emergency life support.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY OF THE PRODUCT: Gas is not flammable at ambient temperatures and atmospheric pressure. However, this material may become combustible when mixed with oxygen or air under pressure or air above atmospheric pressure. Containers may rupture or explode under fire conditions.

FLASH POINT: N/A

AUTOIGNITION TEMPERATURE: 1382°F

NFPA HAZARD CLASSIFICATION

HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0

PROTECTION: B

EXTINGUISHING MEDIA: Use any media that is suitable for the surrounding fire. Material itself is not flammable.

NOT SUITABLE: Do not use water jet.

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool. Use shielding to protect from rupturing cans.

HAZARDOUS DECOMPOSITION PRODUCTS: Products of combustion include: Halogenated compounds, hydrogen fluoride, carbon oxides and possibly carbonyl halides.

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Ventilate contaminated area. Remove all sources of ignition. Wear appropriate Personal protective equipment (PPE). Stop and reduce discharge if it can be done safely.

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING: Use with adequate ventilation. Do not use near ignition sources.

STORAGE: Store in a cool dry well-ventilated area away from all sources of ignition. Do not store at temperatures above 120°F. Empty container may contain residues which are hazardous. Keep out of reach of children.

SECTION 7 NOTES:**SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

ENGINEERING CONTROLS: General mechanical ventilation or laboratory fume hood. Ensure that eyewash stations and quick drench showers are close to the workstation.

RESPIRATORY PROTECTION: None necessary under normal conditions of use.

EYE PROTECTION: None necessary under normal conditions of use.

SKIN PROTECTION: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat

HANDS: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: Neoprene

WORK HYGIENIC PRACTICES: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

EXPOSURE GUIDELINES:

Component	Source	Type	Value	Note
1,1,1,2-Tetrafluoroethane	US OEL	TWA	1000 ppm	AIHA* WEEL

*Manufacturer recommends the guideline established by American Industrial Hygiene Association

SECTION 8 NOTES:**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Colorless

ODOR: Slight ethereal

PHYSICAL STATE: Gas

pH AS SUPPLIED: Not available

SPECIFIC GRAVITY: 1.22 (H₂O=1)

BOILING POINT: -15.2°F

MELTING POINT: Not available

FREEZING POINT: -150°F

VAPOR PRESSURE: 80 PSIG (@70°C)

VAPOR DENSITY (AIR = 1): 3.60

EVAPORATION RATE: 0.5-2 (n-Butyl acetate=1)

SOLUBILITY IN WATER: Negligible; 0-1%

MOLECULAR WEIGHT: 102.03

VISCOSITY: Not established

SECTION 9 NOTES:**SECTION 10: STABILITY AND REACTIVITY**

STABILITY: Product is stable under normal conditions of use.

CONDITIONS TO AVOID (STABILITY): Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, and weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

INCOMPATIBILITY (MATERIAL TO AVOID): Avoid contact with: Alkali, Alkaline earth metals, freshly abraded aluminum surfaces, powdered metals.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Under normal conditions of storage and use, hazardous decomposition products should not be produced. This material can be decomposed by extremely high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and carbonyl fluoride.

HAZARDOUS POLYMERIZATION: No hazardous polymerization

CONDITIONS TO AVOID (POLYMERIZATION): N/A

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD50: No data available

Inhalation LC50: (4h) Rat >500000 ppm

Dermal LD50: No data available

Carcinogenicity: No components are classified as human carcinogen.

Specific target organ toxicity - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System): no data available

Aspiration hazard: No data available

Potential health effects:

Inhalation: May cause central nervous system depression.

Ingestion: Ingestion is not considered a source of exposure.

Skin: Causes frost bite

Eyes: Causes eye irritation.

Signs and Symptoms of Exposure: Breathing small amounts during handling is not likely to cause harmful effects.

Breathing large amounts may be harmful. Inhalation of concentrations above the recommended limits may cause temporary central nervous system depression with anesthetic effects such as dizziness, headache, incoordination, and loss of consciousness.

ROUTES OF ENTRY: Skin/eye contact, inhalation.

TARGET ORGANS: CNS

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

TOXICITY:

Fish: No relevant studies identified.

Crustacea: No relevant studies identified.

Algae/Aquatic Plants: No relevant studies identified.

Other Organisms: No relevant studies identified.

PERSISTENCE AND DEGRADABILITY: Product is a gas at room temperature, therefore, it is unlikely to remain in water.

BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely.

MOBILITY IN SOIL: If released to soil, 1,1,1,2-tetrafluoroethane will rapidly volatilize from either moist or dry soil to the atmosphere. It will display moderate to high mobility in soil.

PBT and vPvB ASSESSMENT: Not required.

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose according to local, state, and federal regulations.

RCRA HAZARD CLASS: U122

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION:

UN No. UN3159
Proper Shipping Name 1,1,1,2-tetrafluoroethane
Hazard Class 2.2
Packing Group N/A

TDG:

UN No. UN3159
Proper Shipping Name 1,1,1,2-tetrafluoroethane
Hazard Class 2.2
Packing Group N/A

IATA:

UN No. UN3159
Proper Shipping Name 1,1,1,2-tetrafluoroethane
Hazard Class 2.2
Packing Group N/A

IMDG/IMP:

UN No. UN3159
Proper Shipping Name 1,1,1,2-tetrafluoroethane
Hazard Class 2.2
Packing Group N/A

SECTION 15: REGULATORY INFORMATION

United States

HCS Classification: Compressed gas

U.S. Federal regulations:

TSCA 8(a) IUR: Partial exemption

United States inventory (TSCA 8b): Listed on inventory.

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: No products were found.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sudden release of pressure

SARA 313 Form R - Reporting:

DEA List I & II Chemicals

(Precursor Chemicals): Not Listed

RTK STATES: None known

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm: None

CANADA

WHMIS (Canada): Class A: Compressed gas

Canadian lists:

CEPA Toxic substances: None of the components are listed.

Canadian ARET: None of the components are listed.

Canadian NPRI: None of the components are listed.

CEPA DSL / CEPA NDSL: All components are listed or exempted.

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

SECTION 16: OTHER INFORMATION

National Fire Protection Association (U.S.A)



DISCLAIMER: This Safety Data Sheet has been prepared in accordance with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries makes any warranty of merchantability or any other warranty, expressed or implied, which respect to such information, and we assume no liability resulting from its use. In no event shall Azer Scientific be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages resulting from use of or reliance upon this information.

PREPARATION INFORMATION: Prepared 01/31/2015 REV1

REV 2: Added limitations of use 10/07/2015

REV 3: Updated GHS compliant pictogram 1/4/2016

Reformatted and Reviewed: 09/20/2017