



## SDS Information

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### Section 1. CHEMICAL PRODUCT INFORMATION

Product Name: R-32 Refrigerant

Date Prepared: 07-2023

Manufacturer: Weitron, Inc.

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### Section 2. HAZARDS IDENTIFICATION

PRODUCT HAZARD CATEGORY: Gases under pressure. Liquified Gas.

LABEL CONTENT: **Pictograms**



SIGNAL WORD: **DANGER**

HAZARDOUS WARNINGS: Extremely flammable gas. Contains gas under pressure; may explode if heated.

HAZARDOUS PREVENTION MEASURES: Protect from sunlight. Store in well-ventilated place.

OTHER HAZARDS: Misuse or intentional inhalation abuse may lead to death without warning. Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Rapid evaporation of the liquid may cause frostbite.

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### Section 3. COMPOSITION/INFORMATION OF INGREDIENTS

CHEMICAL FAMILY		WEIGHT %
CAS #	Description	
75-10-5	Difluoromethane	100%

There are no impurities or stabilizers that contribute to the classification of the material identified in Section 2.

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#### Section 4. FIRST AID MEASURES

**SKIN:** Promptly flush skin with water until all chemical is removed. If there is evidence of frostbite, bath (do not rub) with lukewarm, not to exceed 105°F (41°C), water. If water is not available, cover with clean, soft cloth or similar covering. Get medical attention if symptoms persist.

**EYES:** Immediately flush eyes with large amounts of warm water for at least 15 minutes. In case of frostbite, water should be lukewarm, not to exceed 105°F (41°C), lifting eyelids occasionally to facilitate irrigation. Get medical attention if symptoms persist.

**INHALATION:** Immediately remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**INGESTION:** Ingestion is unlikely route of exposure. This product is a gas at normal temperature and pressure.

**ADVICE TO PHYSICIAN:** Because of the possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with caution and only in situations of emergency life support.

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#### Section 5. Fire Fighting Measures

##### FLAMMABLE PROPERTIES:

FLASH POINT:	Not applicable
FLASH POINT METHOD:	Not applicable
AUTOIGNITION TEMPERATURE:	986 °F
UPPER FLAME LIMIT (volume % in air):	31.0%
LOWER FLAME LIMIT (volume % in air):	13.8%
FUNDAMENTAL BURNING VELOCITY:	2.6 in/s
OSHA FLAMMABILITY CLASS:	Not Applicable

##### EXTINGUISHING MEDIA:

Use CO<sub>2</sub>, powder, water spray, or alcohol-resistant foam.

##### UNUSUAL FIRE AND EXPLOSION HAZARDS:

The hazardous products of hydrogen fluoride (hydrofluoric acid), carbonic oxides, and carbonyl halides can be created from heating or in case of fire. The material is highly flammable and can easily ignite with heat, sparks, or fire. The container may explode when overpressured such as when heated. Containers are equipped with pressure relief devices.

#### SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS:

If possible, stop the flow of gas and remove containers from area of fire. Contents under pressure and container may rupture when exposed to high temperature. Product may act as an asphyxiant. As in any fire, wear self-contained breathing apparatus pressure-demand MSHA/NIOSH (approved or equivalent) and full protective gear. Contain runoff water. Contaminated extinguishing water must be disposed of in accordance with applicable regulations. Avoid breathing smoke, fumes, and decomposition products.

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#### Section 6.

#### ACCIDENTAL RELEASE MEASURES

##### Safeguards (Personnel)

Evacuate personnel to safe areas. Ventilate area. Keep away from ignition sources. Wear appropriate personal protective equipment. Avoid contact and inhalation.

##### Initial Containment

Use water spray to suppress fumes. Do not allow material to enter soil or surface water. Product evaporates.

##### Spill Procedures

Contain spilled material. Large spillage should be dammed-off. Ensure adequate ventilation. Allow material to evaporate. Remove ignition sources and be prepared with fire suppression in case of ignition. Inform authorities of release.

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#### Section 7.

#### HANDLING AND STORAGE

##### NORMAL HANDLING:

Do not breathe vapors. Ensure adequate ventilation. Do not get in eyes, on skin or clothing. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Use appropriate personal protective equipment when using material. Handle with care. Do not puncture or drop containers. Avoid friction on containers. Do not expose containers or material to high heat or open flame. Do not cut, drill, or weld near containers of this material. Avoid strong oxidizing agents. Check that all equipment is properly grounded and installed to meet electrical classification requirements.

##### STORAGE RECOMMENDATIONS:

Protect containers from physical damage. Do not puncture, incinerate, or store containers above 105 °F. Store out of direct sunlight, in a well ventilated location away from possible ignition sources such as open flames, sparks, and electrostatic charges. Observe all federal, state and local regulations and National Fire Protection Association (NFPA) Codes which pertain to the

specific local conditions of storage and use, including OSHA 29 CFR 1910.106 and NFPA 30, 70, 77, and 497.

**INCOMPATIBILITIES:**

Alkali metals, alkaline earth metals, finely divided metals, strong bases, and strong oxidizing agents

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**Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:**

Use local exhaust system, if necessary, to keep the concentration of carbon dioxide below all applicable exposure limits. Under certain conditions, general exhaust ventilation may be acceptable to keep carbon dioxide below exposure limit.

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Monitor carbon monoxide and oxygen levels in tanks and enclosed spaces. Consult ACGIH ventilation manual, NFPA Standard 91 and NFPA Standard 654 for design of exhaust system and safe handling.

**PERSONAL PROTECTIVE EQUIPMENT:**

**SKIN PROTECTION:** Wear insulated neoprene gloves and safety shoes for handling cylinders. Select PPE in accordance with OSHA 29 CFR 1910.132 and 1910.133.

**EYE PROTECTION:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear chemical safety goggles.

**RESPIRATORY PROTECTION:** None generally required for adequately ventilated work situations. For accidental release or non-ventilated situations, or release into confined space, where the concentration may be above PEL, use a self-contained NIOSH approved breathing apparatus or supplied air respirator. For escape: use the former or a NIOSH approved gas mask with organic vapor canister.

**EXPOSURE GUIDELINES:**

INGREDIANT NAME	ACGIH TLV	OSHA PEL	AIHA WEEL
Difluoromethane	2.5mg/m <sup>3</sup> TWA (8 hr)	2.5mg/m <sup>3</sup> TWA (8 hr)	1000 ppm TWA (8 hr)

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**Section 9. PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE:	Colorless liquified gas
PHYSICAL STATE:	Can be present as a liquid or gas
MOLECULAR WEIGHT:	52.02 g/mol
CHEMICAL FORMULA:	CH <sub>2</sub> F <sub>2</sub>

ODOR:	Slightly ether like
SPECIFIC GRAVITY (water=1.0):	.959 @ 15°C (59°F)
SOLUBLE IN WATER:	1.68 g/L @ 77°F (25°C) and 1 atm
pH:	neutral
LIQUID DENSITY:	60.0 lb/ft <sup>3</sup> (961 kg/m <sup>3</sup> ) @ 77°F (25°C) and 1 atm
VAPOR PRESSURE:	221 psig (11429 mm Hg) @ 70°F (21.1°C)
VAPOR DENSITY (air = 1.0):	1.18 @ 77°F (25°C)
EVAPORATION RATE:	Not Available
% VOLATILES:	100
ODOR THRESHOLD:	Not Available
FLAMABILITY:	Extremely flammable liquified gas (ISO817 Class A2L)
LEL/UEL (% VOLUME):	13.8-31.0
PARTITION COEFF (n-octanol/water):	.21 @ 77°F (25°C)
AUTOIGNITION TEMP:	986°F (530°C)
DECOMPOSITION TEMPERATURE:	Not Available
VISCOSITY:	Not Available
FLASH POINT:	Not Applicable

**Section 10. STABILITY AND REACTIVITY**

**NORMALLY STABLE:** The product is stable under normal storage and usage conditions. Avoid overheating to prevent thermal decomposition.

**CONDITIONS TO AVOID:** Contact with incompatible materials, exposure to electrical discharges and/or high temperatures, flames, or sparks

**INCOMPATIBLE MATERIALS:** Alkali metals, alkaline earth metals, finely divided metals, strong bases, and strong oxidizing agents

**DECOMPOSITION PRODUCTS:** Thermal decomposition of the material produces hydrogen fluoride, carbon oxides, and carbonyl halides.

**Section 11. TOXICOLOGICAL INFORMATION**

Difluoromethane (HFC-32)

- Dermal : not applicable
- Oral : not applicable
- Inhalation 4 h LC50 : >520000ppm, rat
- Inhalation LOAEC : >300000ppm, dog
- Skin irritation : No skin irritation, not tested on animals.

Not expected to cause skin irritation based on expert review of the properties of the substance

Eye irritation	: No eye irritation, not tested on animals Not expected to cause eye irritation based on expert review of the properties of the substance
Skin sensitization	: Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance There are no reports of human respiratory sensitization
Repeated dose toxicity	: Inhalation Rat No toxicologically significant effects were found
Carcinogenicity	: Overall weight of evidence indicates that the substance is not carcinogenic
Mutagenicity	: Did not cause genetic damage in animals Did not cause genetic damage in cultured mammalian cells Did not cause genetic damage in cultured bacterial cells
Reproductive toxicity	: Animal testing showed no reproductive toxicity Information given is based on data obtained from similar substances
Teratogenicity	: Animal testing showed no developmental toxicity
Further information	: Cardiac sensitization threshold limit: >638000 mg/m3

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**Section 12.**

**ECOLOGICAL INFORMATION**

Difluoromethane (HFC-32)

96 h LC50	: Fish 1507 mg/L
72 h EC50	: Algae 142 mg/L
48 h EC50	: Daphnia 652 mg/L

Global Warming Potential:

This material has a GWP (100 year) of 675 where CO<sub>2</sub> is 1.

Ozone Depletion Potential:

This material has an ODP of 0 where R-11 is 1.

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**Section 13.****DISPOSAL CONSIDERATIONS****WASTE DISPOSAL METHOD:**

Do not vent and do not attempt to dispose of residual or unused quantities. Return cylinder to supplier. Unused quantities or residuals can be recovered and returned to an approved certified reclaimer or back to the seller depending on the situation. Disposable steel cylinders that are completely empty can be disposed of as recyclable steel.

Dispose of in accordance with all official federal, state and local regulations.

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**Section 14.****TRANSPORT INFORMATION****US Department of Transportation (DOT):**

UN NUMBER	: UN3252
PROPER SHIPPING NAME	: Difluoromethane
HAZARD CLASS	: 2.1
PACKING GROUP	: Not applicable
REPORTABLE QUANTITY	: 5000 lbs (2270 kg)

**International Maritime Dangerous Goods Code (IMDG)**

UN NUMBER	: UN3252
PROPER SHIPPING NAME	: Difluoromethane
HAZARD CLASS	: 2.1
MARINE POLLUTANT	: No

**SPECIAL SHIPPING INFORMATION:** Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, non-ventilated compartment of a vehicle can present serious safety hazards.

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**Section 15.****REGULATORY INFORMATION**

Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

**Miscellaneous Information**

This material is listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA)

“Reportable Quantities” (RQs) and/or “Threshold Planning Quantities” (TPQs) exist for this material

This material is listed (or considered as having been notified) on the European Inventory of Existing Chemical Substances (EINECS)

This material is listed on the Canadian Domestic Substances List (DSL)

PA Right to Know Regulated Chemicals : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more: Difluoromethane

NJ Right to Know Regulated Chemicals : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more: Difluoromethane

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## Section 16.

## OTHER INFORMATION

CURRENT ISSUE DATE: August, 2023

PREVIOUS ISSUE DATE: N/A

OTHER INFORMATION: HMIS Classification: Health – 1, Flammability – 4, Reactivity – 0

NFPA Classification: Health – 1, Flammability – 4, Reactivity – 0

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