Effective Date: May 10, 2016

Product #(s) – R13430

Safety Data Sheet

For Emergency Call:
CHEM-TEL (800) 255-3924 24 Hour Assistance

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Master R134a 30 lb.

CAS Number: 811-97-2
Recommended Uses: Refrigerant, Propellant
Company Identification
Manufacturer's Name: MASTER
Address: 4635 Willow Drive, Medina, MN 55340
Telephone – General Information: (763) 478-3438

2. HAZARDS IDENTIFICATION

Hazard Classes: Gases Under Pressure: Liquefied Gas

Signal Word: Warning

Hazard Statements:

H280	Contains gas under pressure; may explode if heated

Hazards not otherwise Classified:
Gas reduced oxygen available for breathing.

Precautionary Statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use..
P410 + 403	Protect from sunlight. Store in well-ventilated place.
P412	Do not expose to temperatures exceeding 50°C / 122°F
P501	Disposal: Dispose of contents/container to a specialized waste disposal plant in accordance with local/regional regulations

Hazard Pictograms:

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Components	Typical Weight Percentage	CAS Number
1,1,1,2-Tetrafluoroethane	100%	811-97-2

4. FIRST AID

Eyes: For contact with the liquefied gas, remove contact lenses if present and easy to do, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin Contact: Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms and effects

Acute: Anesthetic effects at high concentrations.

Delayed: None known or anticipated. See Section 11 for information on effects from chronic exposure, if any.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g., in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards: Contents under pressure. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Toxic gases and vapors; oxides of carbon.

Special Firefighting Procedures: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Stay away from ends of container. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Stay upwind and away from spill/release. For large spills, notify people down-wind of spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done with minimal risk. The product evaporates quickly.

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down-wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see Section 8).

Contents under pressure. Gas can accumulate in confined spaces and limit oxygen available for breathing. Use only with adequate ventilation. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Use good personal hygiene practice.

Conditions for Safe Storage: Pressurized container. Avoid exposing any part of a compressed-gas cylinder to sunlight and/or temperatures above 125°F(51.6°C). Protect cylinders from physical damage. Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency. Protect from

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV/STEL	OSHA PEL/STEL	OTHER TWA*
1,1,1,2-Tetrafluoroethane	----	----	1,000 ppm

***Exposure limit identified by DuPont**
Note: Oxygen levels should be maintained above 19.5%

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

Specific Personal Protective Equipment

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin: Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Respiratory Protection: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Air-purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration as directed by regulation or the manufacturer's instructions, in oxygen deficient (less than 19.5% oxygen) situations or under conditions that are immediately dangerous to life and health (IDLH).

Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are unknown or any other circumstances where air-purifying respirators may not provide adequate protection.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. PHYSICAL AND CHEMICAL PROPERTIES (approximate values)

Appearance: Liquefied Gas
Odor: Slight ether-like
Odor threshold: No data
pH: Neutral
Melting/Freezing Point: -101°C
Boiling point (at 1 atm): -26.2°C
Flash Point: No data
Auto-Ignition Temperature: >750°C
Evaporation rate (butyl acetate = 1): >1
Flammability (solid, gas): Not applicable
Explosive Limits: No data
Vapor Pressure: 5915 hPa
Vapor Density (air = 1): 3.5
Density: 1.2 g/cm^3
Solubility in water: 1.5 g/l
Partition Coefficient: Log Pow 1.06 The product is more soluble in octanol
Decomposition Temperature: >250°C To avoid decomposition, do not over heat
Viscosity: No data

10. STABILITY AND REACTIVITY

Stability (thermal, light, etc.): Stable under normal conditions of storage and handling.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

Incompatibility (materials to avoid): Avoid contact with finely divided aluminum, potassium, calcium, powdered metals, magnesium and zinc.

Hazardous Decomposition Products: Decomposition products can include oxides of carbon, hydrogen fluoride, halogenated compounds and carbonyl halides.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Product/Ingredient Name	Result	Species	Dose
1,1,1,2-Tetrafluoroethane	LD50 Oral	Rat	22 g/kg
	LD50 Dermal	Rabbit	>2 g/kg
	LC50 Inhalation (vapor)	Rat	>317 mg/l – 2hr

Skin Corrosion/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).

Serious Eye Damage/Irritation: Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

Signs and Symptoms: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

Skin Sensitization: None reported

Respiratory Sensitization: None reported

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Carcinogenicity: Not expected to cause cancer. This substance is not listed as a carcinogen by IARC, NTP or OSHA.

Reproductive Toxicity: Not expected to cause reproductive effects.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): Not expected to cause organ effects from single exposure.

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Other Comments: High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus.

12. ECOLOGICAL INFORMATION

Toxicity: Material is practically non-toxic to aquatic organisms on an acute basis. However, it is good practice to avoid release to the environment.

Persistence and Degradability: This material is not readily biodegradable.

Bioaccumulative Potential: No data.

Mobility in Soil: No data.

Other Adverse Effects: Contains greenhouse gases which may contribute to global warming.

13. DISPOSAL CONSIDERATIONS

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

Recycle wherever possible. Large volumes may be suitable for re-distillation or, if contaminated, incinerated. Can be disposed of in a sewage treatment facility.

This material, if discarded as produced, would not be a federally regulated RCRA “listed” or characteristic hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

14. TRANSPORT INFORMATION

DOT/TDG Proper Shipping Name: 1,1,1,2-Tetrafluoroethane
DOT/TDG Identification Number: UN3159
DOT Hazard Class: 2.2 / **TDG Hazard Class:** 2.2
ERG Guide Number: 126
Marine Pollutant: No

15. REGULATORY INFORMATION

TSCA: Listed on the TSCA inventory.

DSL: Listed on the DSL inventory.

OSHA (Occupational Safety and Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard**.**

This material has not been identified as a carcinogen by NTP, IARC or OSHA

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CERCLA/SARA – Section 302 Extremely Hazardous Substances and TPQ (in pounds): This material does NOT contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 355 Appendix A and B.

EPA (CERCLA) Reportable Quantity (in pounds): This material doesn't contain chemicals subject to the reporting requirements of 40 CFR 302.4:

Component	Concentration	RQ
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CERCLA/SARA - Sections 311/312 (Title III Hazard Categories):
Acute: Yes Chronic: Yes Fire: No Reactivity: No

CERCLA/SARA – Section 313 and 40 CFR 372: This material doesn't contain chemicals subject to the reporting requirements of SARA 313 and SARA Title III and 40 CFR:

Component	Concentration	de minimis
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California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material doesn't contain detectable chemicals known to the State of California to cause cancer and/or reproductive toxicity.

Component	Concentration	Effect
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Canada:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains information required by the Regulations.

WHMIS Hazard Class: A – Compressed gas

16. OTHER INFORMATION

Issue Date: May 10, 2016
Previous Issue Date: June 1, 2014
Change: Added container size to Product Name

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