

SAFETY DATA SHEET

HT-135 Reclaimed Fluid

SECTION 1: IDENTIFICATION

1.1. Product identifier:

▼ **Trade name:** HT-135 Reclaimed Fluid

Other names / Synonyms: 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.

▼ **Product no.:** 22135R, 22135R-B

Other means of identification: CAS No.: 69991-67-9

1.2. Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses of the substance or mixture: Heat Transfer Fluid, Industrial purposes
Restricted to professional users.

Uses advised against : None known.

1.3. Details of the supplier of the safety data sheet:

Company and address: **TMC Industries, Inc.**
1423 Mill Lane
Waconia, Minnesota 55387
USA
TF: +1 (800) 772-8179
www.tmcindustries.com

Contact person: Nick Hansen

E-mail: sales@tmcindustries.com

SDS date: 10/9/2024

SDS Version: 2.0

Date of previous version: 2/7/2024 (1.0)

1.4. ▼ Emergency telephone number:

Contact the poison control at 1-800-222-1222 (24/7) or use the webPOISONCONTROL® (triage.webpoisoncontrol.org) to get specific guidance for your case

See also section 4 "First aid measures".

Emergency Telephone Number: CHEMTRAC 24-HR Emergency USA, Canada, Puerto Rico, US Virgin Islands (800) 424-9300.

SECTION 2: HAZARD(S) IDENTIFICATION

OSHA/HCS status:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

2.1. Classification of the substance or mixture:

Skin Irrit. 2; H315, Causes skin irritation.

Eye Irrit. 2; H319, Causes serious eye irritation.

STOT SE 3; H335, May cause respiratory irritation.

2.2. Label elements:

Hazard pictogram(s):



Signal word:

Warning

Hazard statement(s):

Causes skin irritation. (H315)

Causes serious eye irritation. (H319)
May cause respiratory irritation. (H335)

Precautionary statement(s):

General:

-

Prevention:

Avoid breathing mist/vapour. (P261)
Wash hands thoroughly after handling. (P264)
Wear eye protection/protective gloves/protective clothing. (P280)

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
Call a POISON CENTER/doctor if you feel unwell. (P312)
If eye irritation persists: Get medical advice/attention. (P337+P313)

Storage:

Store in a well-ventilated place. Keep container tightly closed. (P403+P233)

▼ Disposal:

Refer to manufacturer or supplier for information on recovery or recycling. (P502)

Additional labelling:

Not applicable.

2.3. Other hazards:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. ▼ Substances:

| Product/substance | Identifiers | % w/w | Classification | Note |
|---|---------------------|--------|--|------|
| 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. | CAS No.: 69991-67-9 | >99.9% | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 | [19] |

3.2. Mixtures:

Not applicable. This product is a substance.

Where the concentration of an ingredient is expressed as a range the exact concentration has been withheld as a trade secret.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information:

[19] UVCB = Unknown or variable composition, complex reaction products or of biological materials

SECTION 4: FIRST-AID MEASURES

4.1. Description of first aid measures:

General information: If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 911 and give immediate treatment (first aid). Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation: Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.

Skin contact: IF ON SKIN: Wash with plenty of water and soap. Remove contaminated clothing and shoes. Ensure to wash exposed skin thoroughly with water and soap. DO NOT use solvents or thinners. If skin irritation occurs: Get medical advice/attention.

Eye contact: If in eyes: Flush eyes immediately with plenty of water or isotonic water (20-30 °C) for at least 5 minutes and continue until irritation stops. Remove contact lenses. Make sure to flush under upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

Ingestion: If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink.

In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.

Burns: Not applicable.

4.2. Most important symptoms and effects, both acute and delayed:

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

4.3. Indication of any immediate medical attention and special treatment needed:

If eye irritation persists: Get medical advice/attention.

Information to medics:

Bring this safety data sheet or the label from this product.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media:

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media: Waterjets should not be used, since they can spread the fire.

5.2. Special hazards arising from the substance or mixture:

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:

Halogenated compounds

Carbon oxides (CO / CO₂)

5.3. Advice for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact the Poison Help Line on 1-800-222-1222 (24/7) in order to obtain further advice.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Avoid direct contact with spilled substances.

Ensure adequate ventilation, especially in confined areas.

Avoid inhalation of vapours from spilled material.

Contaminated areas may be slippery.

6.2. Environmental precautions:

Avoid discharge to lakes, streams, sewers, etc.

Keep unauthorized persons away from the spill

6.3. Methods and material for containment and cleaning up:

Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections:

See section 13 "Disposal considerations" on handling of waste.

See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Smoking, drinking and consumption of food is not allowed in the work area.

See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities:

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

| | |
|--------------------------------------|--|
| Recommended storage material: | Keep in properly labeled containers Plastic Container Glass Container |
| Storage conditions: | Do not place container horizontally or upside down Keep container closed when not in use Store at normal room temperature away from extreme heat |
| Incompatible materials: | Keep away from combustible material. Keep away from heat, and sources of ignition. |

7.3. Specific end use(s):

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

No substances are listed with a permissible exposure limit (ref: 29 CFR 1910.1000 TABLE Z-1)

8.2. Exposure controls:

Apply general control to prevent unnecessary exposure

General recommendations: Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios: There are no exposure scenarios implemented for this product.

Exposure limits: Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures: Apply standard precautions during use of the product. Avoid inhalation of vapours.

Hygiene measures: Take off contaminated clothing and wash it before reuse.

Measures to avoid environmental exposure: No specific requirements.

Individual protection measures, such as personal protective equipment:

Generally: Use only protective equipment with a recognized certification mark, e.g. the UL mark.

Respiratory Equipment:

| Work situation | Type | Class | Colour | Standards | |
|--|--|-------|--------|-----------|---|
| When the product is subjected to extreme heat, HF may be formed. | Positive pressure supplied air respirator. | | | |  |

Skin protection:

| Recommended | Type/Category | Standards | |
|--------------------------------|--------------------------------|-----------|---|
| Protective boots | Protective boots | |  |
| Use proper protective clothing | Use proper protective clothing | | |

Hand protection:

| Material | Glove thickness (mm) | Breakthrough time (min.) | Standards | |
|---------------------------|----------------------|--------------------------|-----------|---|
| Chemical Resistant gloves | | | |  |

Eye protection:

| Type | Standards | |
|----------------|-----------|---|
| Safety glasses | EN166 |  |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

| | |
|--------------------------------------|-------------------|
| Physical state: | Liquid |
| Color: | Colorless |
| Odor: | None |
| Odor threshold (ppm): | Not applicable |
| pH: | No data available |
| ▼ Density (g/cm³): | No data available |
| Relative density: | 1.69 -1.75 g/ml |
| Kinematic viscosity: | 1.72 mPa.s |
| Particle characteristics: | No data available |

Phase changes:

| | |
|---|----------------------------|
| Melting point/freezing point (°F): | No data available |
| Softening point/range (°F): | Does not apply to liquids. |
| ▼ Boiling point (°F): | No data available |
| ▼ Boiling point (°C): | 128 - 142 |
| Vapor pressure: | 7.73 hPa |
| Relative vapor density: | No data available |
| Decomposition temperature (°F): | >554 |
| Decomposition temperature (°C): | >290 |

Data on fire and explosion hazards:

| | |
|--|-------------------|
| Flash point (°F): | No flash point |
| ▼ Flammability (°F): | No data available |
| ▼ Auto-ignition temperature (°F): | No data available |
| Explosion limits (% v/v): | None |

Solubility:

| | |
|---|-------------------|
| Solubility in water: | Insoluble |
| n-octanol/water coefficient (LogK_{ow}): | No data available |
| Solubility in fat (g/L): | None |

9.2. Other information:

| | |
|-----------------------------|---------------------------------|
| ▼ Thermal stability: | Stable under normal conditions. |
|-----------------------------|---------------------------------|

| | |
|---|-----------------------------|
| Evaporation rate (n-butylacetate = 100): | No data available |
| ▼ Miscibility: | Miscible with Galden HT-135 |
| Other physical and chemical parameters: | No data available. |
| Surface tension (mN/m): | 17 |
| Molecular Weight (g/mol): | 610 |
| ▼ Oxidizing properties: | No data available |

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

No data available.

10.2. Chemical stability:

The product is stable under the conditions, noted in section 7 "Handling and storage".

10.3. Possibility of hazardous reactions, including those associated with foreseeable emergencies:

None known.

10.4. Conditions to avoid:

The product may decompose at temperature above 290°C with emission of HF which are toxic and corrosive gasses. Decomposition is promoted by metals, so in the presence of titanium and alloys the decomposition temperature lowers to 260°C.

10.5. Incompatible materials:

Strong acids, strong bases, and strong oxidizing agents.

Keep away from heat, and sources of ignition.

Keep in properly labeled containers

10.6. ▼ Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

▼ Acute toxicity:

| | |
|-------------------|---|
| Product/substance | 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. |
| Species: | Rat |
| Test: | LC50 |
| Result: | >37400 mg/kg |

| | |
|-------------------|---|
| Product/substance | 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. |
| Species: | Rat |
| Test: | LC50 |
| Result: | 17000 mg/kg |

| | |
|--------------------|---|
| Product/substance | 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. |
| Species: | Rat |
| Route of exposure: | Inhalation |
| Test: | LD50 (4hr) |
| Result: | >19540 ppm |

| | |
|--------------------|---|
| Product/substance | 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. |
| Test method: | OECD 403 |
| Species: | Rat |
| Route of exposure: | Inhalation |
| Test: | LD50 |
| Result: | 19540 ppm |

Skin corrosion/irritation:

| | |
|-------------------|---|
| Product/substance | 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. |
| Species: | Rabbit |

Result: No adverse effect observed (Not irritating)

Causes skin irritation.

Serious eye damage/irritation:

Product/substance 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.
Species: Rabbit
Result: No adverse effect observed (Not irritating)

Causes serious eye irritation.

Respiratory sensitisation:

Based on available data, the classification criteria are not met.

Skin sensitisation:

Product/substance 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.
Species: Guinea pig
Result: No adverse effect observed (not sensitising)

Germ cell mutagenicity:

Product/substance 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.
Species: Rat
Conclusion: No adverse effect observed

Carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

May cause respiratory irritation.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Long term effects:

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs.
Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

Other information:

None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

No data available.

12.2. Persistence and degradability:

Based on available data, the classification criteria are not met.

12.3. Bioaccumulative potential:

Based on available data, the classification criteria are not met.

12.4. Mobility in soil:

No data available.

12.5. Results of PBT and vPvB assessment:

This mixture/product does not contain any substances known to fulfil the criteria for PBT and vPvB classification.

12.6. Other adverse effects:

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods:

This material can be reclaimed by TMC Industries. Contact TMC for more information.

RCRA Hazardous waste ("P" and "U" list) (40 CFR 261):

None of the components are listed

Specific labelling:

Contaminated packing:

Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

| | 14.1 UN / ID | 14.2 UN proper shipping name | 14.3 Hazard class(es) | 14.4 PG* | 14.5 Env** | Other information: |
|------|-----------------|---------------------------------|--------------------------|-------------|---------------|-----------------------|
| DOT | - | - | - | - | - | - |
| IMDG | - | - | - | - | - | - |
| IATA | - | - | - | - | - | - |

* Packing group

** Environmental hazards

Additional information:

Not dangerous goods according to DOT, IATA and IMDG.

14.6. Special precautions for user:

Not applicable.

14.7. Transport in bulk according to IMO instruments:

No data available.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:

15.2. ▼ U.S. Federal regulations:

TSCA (the non-confidential portion): 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. is listed

Clean Air Act: None of the components are listed

EPCRA Section 302: None of the components are listed

EPCRA Section 304: None of the components are listed

EPCRA section 313: None of the components are listed

CERCLA: None of the components are listed

▼ Hazardous chemical inventory reporting: This product is subject to Tier II reporting.

State regulations:

California / Prop. 65: None of the components are listed

Massachusetts / Right To Know Act: None of the components are listed

New Jersey / Right To Know Act: None of the components are listed

New York / Right To Know Act: None of the components are listed

Pennsylvania / Right To Know Act: None of the components are listed

15.4. Restrictions for application:

Restricted to professional users.

15.5. Demands for specific education:

No specific requirements.

15.6. Additional information:

Not applicable.

15.7. Chemical safety assessment:

No

15.8. Sources:

OSHA Hazard Communication Standard (29 CFR 1910.1200)

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3:

H315, Causes skin irritation.

H319, Causes serious eye irritation.

H335, May cause respiratory irritation.

The full text of identified uses as mentioned in section 1:

None known.

Abbreviations and acronyms:

ACGIH = American Conference of Governmental Industrial Hygienists

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

CAS = Chemical Abstracts Service

CERCLA = Comprehensive Environmental Response Compensation and Liability Act

DOT = Department of Transportation

EINECS = European Inventory of Existing Commercial chemical Substances

EPCRA = Emergency Planning and Community Right-To-Know Act

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

HCIS = Hazardous Chemical Information System

HNOC = Hazards Not Otherwise Classified

IARC = International Agency for Research on Cancer

IATA = International Air Transport Association

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.

("Marpol" = marine pollution)

NFPA = National Fire Protection Association

NIOSH = National Institute for Occupational Safety and Health

OECD = Organisation for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

PBT = Persistent, Bioaccumulative and Toxic

RCRA = Resource Conservation and Recovery Act

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

RRN = REACH Registration Number

SARA = Superfund Amendments and Reauthorization Act

SCL = A specific concentration limit.

STEL = Short-term exposure limits

STOT-RE = Specific Target Organ Toxicity - Repeated Exposure

STOT-SE = Specific Target Organ Toxicity - Single Exposure

TSCA = The Toxic Substances Control Act

TWA = Time weighted average

UN = United Nations

UVBC = Unknown or variable composition, complex reaction products or of biological materials

VOC = Volatile Organic Compound

vPvB = Very Persistent and Very Bioaccumulative

Additional information:

The classification of the mixture in regard of health hazards is in accordance with the calculation methods given by HCS

(29 CFR 1910.1200).

The safety data sheet is validated by:

TMC Industries, Inc. - QC Department

▼ Other:

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not
necessarily correct for use with other chemicals/products.

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data
sheet cannot be used as a product specification.

Country-language: US-en