

SAFETY DATA SHEET

Preparation Date: 06/18/2019

Revision date 06/18/2019

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: H1008
Product Name: 1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL, REAGENT

Other means of identification

Synonyms: Bis(trifluoromethyl)methanol
 Hexafluoroisopropanol
 Hexafluoroisopropyl alcohol
 HFIP
CAS #: 920-66-1
RTECS # UB6450000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Gases)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage

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Toxic if inhaled
Harmful if swallowed



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or physician

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell

Rinse mouth

Do NOT induce vomiting

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	100

4. FIRST AID MEASURES

First aid measures

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General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact: Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Toxic by inhalation. Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention.

Ingestion: Harmful if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Corrosive to the eyes and may cause severe damage including blindness
Causes skin and eye burns
Skin contact may result in redness, pain, inflammation, itching, scaling
Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea
May cause coughing and shortness of breath
Headache

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO₂). Water spray mist, or foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide. Hydrogen fluoride gas.

Specific hazards May be combustible at high temperatures. Fire may produce irritating and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods: No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. Prevent product from entering drains. Do not let this chemical enter the environment.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Absorb spill with inert material (e.g. vermiculite, dry sand or earth). Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Strong oxidizing agents
Strong acids
Strong bases
Aluminum
Zinc
Alkali Metals
Acid chlorides
Beryllium

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	None	None	None	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation, especially in confined areas. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles or Safety glasses with side-shields.
- Skin and body protection:** Chemical resistant apron
Long sleeved clothing
Gloves
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
No information available.

Color:
Colorless.

Odor:
Unpleasant.

Taste
No information available.

Formula
C3H2F6O

Molecular/Formula weight (g/mole):
168.04

Flammability (solid, gas)
no data available

Flashpoint (°C/°F):
> 93.33°C/ >200°F

Flash Point Tested according to:
Not available

Autoignition Temperature (°C/°F):
No information available

Lower Explosion Limit (%):
No information available

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Upper Explosion Limit (%):
No information available

Melting point/range(°C/°F):
(-3.3)-(-4)°C/ 26.1-24.8°F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
57-60°C/ 134.6-140°F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
1.622

pH
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
5.8

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
1.66

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Soluble in Water
Soluble in Ether
Soluble in Acetone

10. STABILITY AND REACTIVITY

Reactivity

No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Strong oxidizing agents
Strong acids
Strong bases
Aluminum
Zinc
Alkali Metals
Acid chlorides
Beryllium

Hazardous decomposition products: Carbon oxides. Hydrogen fluoride gas.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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Principal Routes of Exposure:
Skin. Eyes. Inhalation. Ingestion.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

1,1,1,3,3,3-Hexafluoro-2-propanol	
CAS No	920-66-1

LD50/oral/rat = 1500 mg/kg Oral LD50 Rat
LD50/oral/mouse = 600 mg/kg Oral LD50 Mouse
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 1974 ppm Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
Value - Acute Toxicity = 1500 mg/kg

LD50/oral/mouse =
Value - Acute Tox = 600 mg/kg

LD50/dermal/rabbit
Value - Acute Toxicity = No information available

LD50/dermal/rat
VALUE - Acute Tox = No information available

LC50/inhalation/rat
VALUE-Vapor = 1974 ppm 4 h
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin burns. Skin contact may result in redness, pain, inflammation, itching, scaling, and/or blistering.

Eye Contact: Corrosive to the eyes and may cause severe damage including blindness. Causes corneal damage.

Inhalation Toxic by inhalation. Symptoms may include coughing and wheezing. May cause tight feeling in chest and difficulty breathing.

Ingestion Harmful if swallowed. Symptoms may include a burning sensation in the mouth, throat, and stomach. May cause headache. May cause abdominal pain, nausea, vomiting, diarrhea.

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Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity No information available.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

1,1,1,3,3,3-Hexafluoro-2-propanol - 920-66-1

Fish LC50: 224 - 266mg/L (96h, Pimephales promelas)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
1,1,1,3,3,3-Hexafluoro-2-prop anol	920-66-1	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1760
Proper Shipping Name: Corrosive liquids, n.o.s.
Hazard Class 8
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 154
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions IB3, T7, TP1, TP28
Symbol(s): No information available
Description: UN1760, Corrosive liquids, n.o.s., 8, III

TDG (Canada)

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN1760, Corrosive liquid, n.o.s., 8, III

ADR

UN Number UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Transport hazard class(es) 8
Packing group III
Subsidiary Risk: No information available
Special Provisions 274
Description: UN1760, Corrosive liquid, n.o.s., 8, III

IMDG

UN-No: UN1760
Proper Shipping Name: Corrosive liquids, n.o.s.
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A

Product code: H1008

Product name:
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Special Provisions 274, 223
Description UN1760, Corrosive liquid, n.o.s. (1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL), 8, III

RID

UN Number UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Transport hazard class(es) 8
Subsidiary Risk: No information available
Packing group III
Special Provisions 274
Description: UN1760, Corrosive liquid, n.o.s., 8, III

ICAO (air)

UN-No: UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Hazard Class 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN1760, Corrosive liquid, n.o.s., 8, III
Special Provisions A3

IATA

UN Number UN1760
Proper Shipping Name: Corrosive liquid, n.o.s.
Transport hazard class(es) 8
Subsidiary Risk: No information available
Packing group III
Precautionary Statements - Response 8L
Special Provisions No information available
Description: UN1760, Corrosive liquid, n.o.s., 8, III

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	PresentACTIVE	Present KE-18542	Present	Present (2)-291	Present	Present	Present 213-059-4

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	None	None	None	None	None

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) - Health and Safety Reporting
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1	

EU - CLP (1272/2008)

R-phrase(s)

R34 - Causes burns
R23 - Toxic by inhalation
R22 - Harmful if swallowed

S -phrase(s)

S 7 - Keep container tightly closed.

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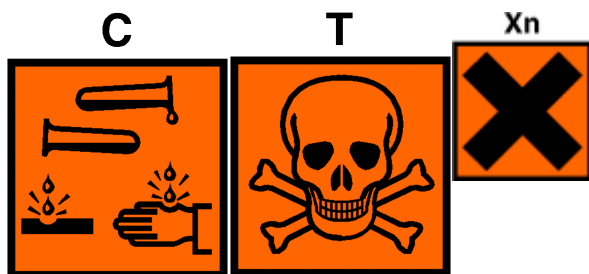
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
28A - After contact with skin, wash immediately with plenty of water.
S36 - Wear suitable protective clothing
S39 - Wear eye/face protection

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
1,1,1,3,3,3-Hexafluoro-2-propanol	920-66-1		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive
T - Toxic
Xn - Harmful



16. OTHER INFORMATION

Preparation Date: 06/18/2019
Revision date 06/18/2019
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet