

Material Safety Data Sheet

1,1,1,3,3,3-Hexafluoro-2-propanol

ACC# 94544

Section 1 - Chemical Product and Company Identification

MSDS Name: 1,1,1,3,3,3-Hexafluoro-2-propanol

Catalog Numbers: AC147540000, AC147540050, AC147540250, AC147541000, AC293410000, AC293410050, AC293410100,

AC293410250, AC293410500, AC354860000, AC354861000, NC9128370, NC9270623, NC9314558, XXAC14754-1KG, XXAC14754-3KG

Synonyms: HFIP; 1,1,1,3,3,3-Hexafluoroisopropanol; Bis(trifluoromethyl)methanol; Hexafluoroisopropanol; Hexafluoroisopropyl alcohol.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
920-66-1	1,1,1,3,3,3-Hexafluoro-2-propanol	>99	213-059-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid.

Danger! Causes burns by all exposure routes. Harmful if swallowed, inhaled, or absorbed through the skin.

Target Organs: Respiratory system, eyes, skin.

Potential Health Effects

Eye: Contact with liquid is corrosive to the eyes and causes severe burns. May cause blindness. Immediate washing of the eye did not lessen the severity of the eye damage. (DuPont)

Skin: Causes severe skin irritation. Immediate effects of overexposure to HFIP by skin contact may include severe irritation with burning, redness, pain, swelling or rash. Prolonged contact may cause burns or possibly blisters. (DuPont)

Ingestion: May cause perforation of the digestive tract. May cause severe irritation of the digestive tract.

Inhalation: May cause respiratory difficulty and coughing. Causes respiratory tract irritation with possible burns. A single inhalation exposure to near lethal concentrations of hexafluoroisopropanol caused nasal and ocular discharge, labored breathing, and incoordination. Repeated exposure caused irritation of the respiratory tract. (DuPont)

Chronic: Prolonged skin contact may result in both systemic toxicity and the formation of large vesicles (blisters) after a latent period of several hours.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Provide ventilation. Evacuate unnecessary personnel. Approach spill from upwind.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Do not breathe vapor or mist.

Storage: Store in a tightly closed container. Store in a cool, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
1,1,1,3,3,3-Hexafluoro-2-propanol	none listed	none listed	none listed

OSHA Vacated PELs: 1,1,1,3,3,3-Hexafluoro-2-propanol: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: characteristic odor

pH: Not available.

Vapor Pressure: 120 mm Hg @ 20 deg C

Vapor Density: 5.8 (air=1)

Evaporation Rate: Not available.

Viscosity: 1.021 cps @ 25 deg C

Boiling Point: 59 deg C @ 760 mm Hg

Freezing/Melting Point: -4 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 1.596 g/ml

Molecular Formula: C₃H₂F₆O

Molecular Weight: 168.04

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Confined spaces.

Incompatibilities with Other Materials: Strong acids, strong bases, alkali metals, alkaline earth metals, finely powdered metals, strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen fluoride gas.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 920-66-1: UB6450000

LD50/LC50:

CAS# 920-66-1:

Inhalation, rat: LC50 = 1974 ppm/4H;

Oral, mouse: LD50 = 600 mg/kg;

Oral, rat: LD50 = 1500 mg/kg;

Inhalation, rat: LC50 = 13.8 mg/l/4H ation, rat: LC50 = 3948 ppm/1H absorption, rabbit: LD50 = 1400 mg/kg (50% solution) rat: LD50 = 1040 mg/kg (10% solution)

Carcinogenicity:

CAS# 920-66-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No data available.

Teratogenicity: Limited studies with hexafluoroisopropanol do not suggest developmental toxicity.

Reproductive Effects: No data available.

Mutagenicity: No data available.
Neurotoxicity: No data available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 126 ppm; 96 hr; LC50

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	CORROSIVE LIQUIDS, TOXIC, N.O.S.	CORROSIVE LIQUIDS, TOXIC, N.O.S. (1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL)
Hazard Class:	8	8
UN Number:	UN2922	UN2922
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 920-66-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 920-66-1: immediate.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 920-66-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T C

Risk Phrases:

R 20/21 Harmful by inhalation and in contact with skin.

R 25 Toxic if swallowed.

R 34 Causes burns.

R 41 Risk of serious damage to eyes.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 920-66-1: No information available.

Canada - DSL/NDSL

CAS# 920-66-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, E.

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

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997

Revision #5 Date: 1/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher 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, howsoever arising, even if Fisher has been advised of the possibility of such damages.