

(Monday - Friday: 7:30 a.m. - 4:00 p.m. CST)

Emergency Contact: INFOTRAC 800-535-5053 [U.S.A.]

Name: HFIP or 1,1,1,3,3,3-Hexafluoro-2-Propanol

Code: 1-270700-500, 1-270701-200, 1-270702-200, 1-270703-200, 1-270704-200

......SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product Identifier

Name HFIP or 1,1,1,3,3,3-Hexafluoro-2-Propanol

Code 1-270700-500, 1-270701-200, 1-270702-200, 1-270703-200, 1-270704-200

1.2 Use of Substance/Mixture

Use Analytical Reagent for Gas Chromatography

1.3 Details of Manufacturer/Supplier

Company Regis Technologies, Inc. 8210 N. Austin Avenue

Morton Grove, IL 60053

847-967-6000; 800-323-8144 (toll free)

Email: cservice@registech.com

www.registech.com

1.4 Emergency Telephone

INFOTRAC 800-535-5053 [U.S.A.]

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

GHS Classification

Acute Toxicity (oral)

Acute Toxicity (inhalation)

Skin Corrosion / Irritation

Serious Eye Damage / Irritation

Category 1

Category 1

H318

GHS Label Elements

Pictograms or hazard symbols



Signal Word Danger

Hazard Statement

H302+ H332 - Harmful if swallowed or inhaled.

H314 – Causes severe skin burns and eye damage.

H318 – Causes serious eye damage.

Precautionary Statements

[Prevention]

P261 – Avoid breathing vapors or mist.

P261 – Wash skin thoroughly after handling.

P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear protective gloves/eye protection/face protection.

[Response] P301+P330+P331 – IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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P314 – Get medical advice/attention if you feel unwell.

[Storage] P402+P404 – Store in a dry place. Store in a closed container. P403+P235 – Store in a well-ventilated place. Keep cool.

[Disposal] P501 – Dispose of contents/ container to an approved waste disposal plant.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Name HFIP or 1,1,1,3,3,3-Hexafluoro-2-Propanol

Synonyms Hexafluoroisopropanol; Hexafluoro-2-propanol

Hazardous components

Component	Classification	Concentration
1,1,1,3,3,3-Hexafluoro-2-Propano CAS No. 920-66 EC No. 213-05 Formula C ₃ H ₂ F ₆ Molecular Mass 168.04	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H302 + H332; H314; H318	≥ 99.0 %

For full test of the H-Statements mentioned in this Section, see Section 16.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact: Rinse eyes with plenty of water for at least 15 minutes; lift eyelids occasionally. If irritation persists,

consult physician.

Skin contact: Immediately remove contaminated clothing and shoes, then wash skin with soap and plenty of water. If

irritation persists, consult physician.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and

keep person warm and at rest. Consult physician.

Ingestion: Give large amounts of water or milk (two glasses at most). Avoid vomiting. Consult physician

immediately. Do not attempt to neutralize.

Physician note: Symptomatic and supportive care. There is no specific antidote.

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

Causes severe skin burns and eye damage. Risk of blindness. Shortness of breath. Pupil dilation.

4.3 Indication of immediate medical attention and special treatment needed.

No information available.

SECTION 5 FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, foam.

5.2 Specific hazards arising from the chemical.

Corrosive liquid and vapor.

Water spray may be used to cool fire-exposed containers. Emits toxic fumes under fire conditions.

Produces carbon oxides, hydrogen fluoride upon combustion.

5.3 Advice for fire-fighters

Wear personal protective equipment for corrosive organic/acidic vapor conditions. Wear self-contained breathing apparatus (SCBA) if necessary.



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SECTION 6 ACCIDENTAL RELEASE MEASURES......

6.1 Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel - Do not breath vapors or mists. Avoid material contact. Evacuate unnecessary personnel from area, observe emergency procedures, consult an expert.

For emergency responders - Protective equipment for corrosive organic/acidic vapor conditions. See Section 8.3.

6.2 Environmental precautions

Prevent material from entering drains.

6.3 Methods of clean up

Evacuate unnecessary people from area. Isolate spilled material.

Ventilate area. Eliminate all ignition sources. Use spark proof tools.

If neat or in solution, mix with sand or similar inert adsorbent material or spill pillow.

Sweep up, seal in appropriate hazardous waste container, and hold for proper waste disposal.

Keep out of water supplies and sewers. Wash spill site after material pickup is complete.

SECTION 7 HANDLING AND STORAGE......

7.1 Safe Handling Precautions

Wear suitable protective equipment to avoid contact with skin, eyes, or inhalation of corrosive organic/acidic vapors.

Wash thoroughly after handling. Immediately remove contaminated clothing.

Handle in a dry, well ventilated area. Use local exhaust if vapor can be generated.

Keep away from ignition sources. Take precautionary measures against static discharge.

Handle under nitrogen.

7.2 Storage Conditions

Store under inert gas in a tightly sealed container. Store in a cool, dry place suitable for corrosive materials, away from incompatibilities.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION.....

8.1 Control parameters

Exposure limits No data available Environmental Do not empty into drains.

8.2 Appropriate engineering controls

Safety shower and eye wash

Local exhaust and mechanical ventilation required. Hood recommended. Fume scrubber.

8.3 Personal protection

Eye/Face Chemical safety eyewear or goggles

Hand Compatible chemical-resistant gloves: Rubber (e.g., natural rubber, neoprene, nitrile, or equivalent),

Silver Shield®, Viton®

Respiratory NIOSH/MSHA or European Standards approved respirator for corrosive organic/acidic vapor if exposure

limits are exceeded or irritation or other symptoms are experienced.

Dermal (not hand) Protective Clothing (e.g., lab coat)--flame retardant anti-static material recommended.

Hygiene Avoid inhalation, ingestion; contact with eyes, skin, and clothing. Wash thoroughly after handling. Wash

contaminated clothing before reuse. Discard contaminated footwear.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on physical and chemical data

Form liquid

Appearance clear, colorless

Odor strong

Abbreviations: NA—not applicable; NE—not established; U—unknown/No data available; NL—not listed; N—no; Y—yes.



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Odor threshold No data available pH 3-4 (aqueous solution) Melting/freezing point -3.3°C (26°F) (lit.)

Initial boiling point: 59°C (138°F) at 1.013 hPa (Lit.)

Flammability (liquid, solid)

Flash Point > 100°C (> 212°F) (Lit.) Method: No data available

Flammable limits (%,v/v) LEL (lower explosive limit) No data available UEL (upper explosive limit) No data available

Autoignition temperature
Decomposition temperature
OSHA Flammability Class
Evaporation Rate (BuAc = 1.0)

No data available
No data available
No data available

Vapor pressure 160 hPa (120 mm Hg) 20 °C (68°F)

Vapor density (air=1): 5.8

Relative density (g/cm³) 1.605 at 25°C (77°F) Water Solubility soluble at 20°C (68°F)

Water reactive No

Solubility (other) No data available Partition coefficient: N-octanol/water Log Pow 1.66

Viscosity 1.64 mPa.s 25°C (77°F) % Volatiles No data available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

None known, based on available information.

10.2 Chemical Stability

Stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Avoid incompatibilities.

Protect from heat and ignition sources. Keep out of water supplies and sewers.

10.5 Incompatible materials

Alkalies metals, alkaline earth metals, aluminum, finely powdered metal, acid halides, zinc

Strong acids or bases Strong oxidizers

10.6 Hazardous decomposition products

Combustion carbon oxides, hydrogen fluoride

SECTION 11 TOXICOLOGICAL INFORMATION......

11.1 Toxicological Information

Acute toxicity orl rat LD50 1500 mg/kg (RTECS)

Skin corrosion/irritation No data available

Serious eye damage/irritation ihl rat LC50 1974 mg/m3/4H (RTECS); Dilated pupils, Shortness of breath, Blood-other

changes.

Respiratory irritation No data available Respiratory or skin sensitization No data available Germ cell mutagenicity No data available



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Carcinogenicity Multiple Ames tests performed, all with negative results (NCI CCRIS).

No data available **IARC** NTP No data available No data available **OSHA** Reproductive toxicity No data available STOT-single exposure No data available STOT-repeated exposure No data available Aspiration hazard No data available RTECS Number UB6450000

11.2 Further Information

Potential health effects

Eye Causes serious eye damage – dilated pupils, destruction to mucous membranes,

burns, risk of blindness, lacrimation (tearing).

Skin Causes severe skin burns.

Inhalation Harmful if inhaled. May be destructive to mucous membranes and respiratory tract.

Symptoms: shortness of breath, difficulty breathing, dilated pupil.

Ingestion Harmful if inhaled. May be destructive to mucous membranes of the GI system.

Symptoms See above route. Pre-existing conditions that may be aggravated: not determined.

Miscellaneous No data available

SECTION 12 ECOLOGICAL INFORMATION......

Ecotoxicity Fish Toxicity: 244 mg/L 96 hours(s) LC50 (mortality) fathead minnow (Pimephales

promelas)

Persistence and degradability
Bioaccumulative potential

No data available
Log Pow: 1.66

Bioaccumulation is not expected. (Lit)

Motility in soil No data available Other adverse effects No data available

General Notes Do not empty into drains or water courses.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Disposal methods

U . S. EPA Waste Codes D002

Waste Characterization RCRA Hazard Class (40CFR 261): Corrosive

(per U. S. regulations) Generator is responsible for proper waste characterization. NOTE: U. S. Federal

and state hazardous waste regulations may differ considerably.

Waste Disposal That which cannot be recovered or recycled, should be disposed of in accordance with

all applicable international, national, regional, state, and local laws. Do NOT dump into

any sewer, on ground, or into any body of water.

SECTION 14 TRANSPORT INFORMATION

14.1 UN number UN1760

14.2 UN proper shipping name Corrosive Liquids, n.o.s. (1,1,1,3,3,3-Hexafluoro-2-propanol)

14.3 Transport Hazard Class 8

14.5 Packing group PG II

14.6 Environmental hazards Not applicable

14.6 Special precautions for user See Section 8 for exposure/personal protection guidance.

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and Environmental regulations specific for the product in question.

NFPA: H3 F0 R0 HMIS: H3 F0 R0

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15.2 Chemical Inventory Lists

Reviews, Standards, and Regulations

TSCA:Y This compound is sold strictly for FDA or research and development use...... EINECS:Y CERCLA [Section 103 (40 CFR 302.4)]:......NL RQ (lbs)NA RCRA Waste Code......NA OSHA Process Safety [29 CFR 1910.119]:NL TQ (lbs)NA Clean Air Act [Section 112r (40 CFR 68)]:......NL TQ (lbs)......NA SARA Title III Notification [40 CFR 302.4]: Section 302/304 (EHS) Ingredient [40 CFR 355.3]NL TPQ (lbs......NA RQ (lbs) NA Section 313 Ingredient [40 CFR 372.65]NL SARA Hazards Acute......Y Chronic..... N Fire N Pressure..... N ReactivityN State Lists: NL States......NL On CA 65 Significant Risk Level......NL

16.1 Full test of H-Statements referred to under Section 2 and 3.

Acute Tox. Acute Toxicity

Eye Dam. Serious eye damage

H302 + H332 Harmful if swallowed or if inhaled

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

Skin Corr. Skin corrosion

The above information is believed to be correct to the best of our present state knowledge, but does not purport to be all-inclusive and shall be used only as a guide. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

SECTION 16OTHER INFORMATIONOTHER INFORMATION

Prepared by: Regis Technologies

This is the last page of this MSDS.

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