

## SAFETY DATA SHEET

Revision Date 03/25/2024

### 1. PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifiers**  
 Product name : HFIP  
 Product Number : RA8406  
 Brand : Advanced ChemTech  
 CAS-No. : 920-66-1
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**  
 Identified uses : Laboratory chemicals, Manufacture of substances
- 1.3 Details of the supplier of the safety data sheet**  
 Company : Advanced ChemTech  
 5609 Fern Valley Rd, Louisville, KY 40228 USA  
 Telephone : +1 833-317-5620  
 Fax : +1 502-968-1000
- 1.4 Emergency telephone number** : +1 800-424-9300 Chemtrec

### 2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture:**  
**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**  
 Skin corrosion (Category 1A), H314  
 Serious eye damage (Category 1), H318  
 Reproductive toxicity (Category 2), H361  
 Specific target organ toxicity - repeated exposure (Category 2), H373  
 For the full text of the H-Statements mentioned in this Section, see Section 16
- 2.2 GHS Label elements, including precautionary statements:**  
 Pictogram



- Signal word : Danger
- Hazard statement(s)**  
 H314 : Causes severe skin burns and eye damage.  
 H361 : Suspected of damaging fertility or the unborn child.  
 H373 : May cause damage to organs through prolonged or repeated exposure.
- Precautionary statement(s)**  
 P201 : Obtain special instructions before use.  
 P202 : Do not handle until all safety precautions have been read and understood.  
 P260 : Do not breathe the mist or vapors.  
 P264 : Wash skin thoroughly after handling.  
 P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301 + P330 + P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 : IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304 + P340 + P310 : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.  
 P305 + P351 + P338 + P310 : 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/ doctor.  
 P308 + P313 : IF exposed or concerned: Get medical advice/ attention.  
 P363 : Wash contaminated clothing before reuse.  
 P405 : Store locked up. P501 Dispose of contents/ container to an approved waste disposal plant.
- 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**  
 Synonyms : Hexafluoroisopropanol; 1,1,1,3,3,3-Hexafluoro-2-propanol  
 Formula : C<sub>3</sub>H<sub>2</sub>F<sub>6</sub>O  
 Molecular Weight : 168.04 g/mole  
 CAS-No. : 920-66-1

**Hazardous components**

Component	Classification	Concentration
1,1,1,3,3,3-Hexafluoro-2-propanol	Skin Corr. 1A; Eye Dam. 1; Repr. 2; STOT RE 2; H314, H318, H361, H373	<= 100 %

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

### 4. FIRST AID MEASURES

- 4.1 Description of first aid measures**

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.  
**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician

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**In case of skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician

**4.2 Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed:** No data available

### 5. FIREFIGHTING MEASURES

**5.1 Extinguishing media**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture:** Carbon oxides, Hydrogen fluoride

**5.3 Advice for firefighters:** Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

**5.4 Further information:** Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal Precautions, protective equipment, and emergency procedure:** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

**6.2 Environmental precautions:** Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up:** Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area..

**6.4 Reference to other sections:** For disposal see section 13.

### 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling** Advice on safe handling Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Hygroscopic Store under inert gas. Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

**7.3 Specific end use(s):** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters**

**Components with workplace control parameters:** Contains no substances with occupational exposure limit values. Hazardous components without workplace control parameters

**8.2 Exposure controls**

**Appropriate engineering controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face protection:** Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

**Control of environmental exposure:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

a) Appearance	Form: Clear, colorless liquid
b) Odor	no data available
c) Odor Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: -4 °C (25 °F) - lit.
f) Initial boiling point and boiling range	59 °C (138 °F) - lit.
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapor pressure	205 hPa at 25 °C (77 °F) - OECD Test Guideline 104
l) Vapor density	no data available
m) Relative density	1.596 g/cm <sup>3</sup> at 25 °C (77 °F) – lit.
n) Water solubility	176 g/l at 20 °C (68 °F) - OECD Test Guideline 105
o) Partition coefficient: n- octanol/water	log Pow: 1.5 at 25 °C (77 °F) - OECD Test Guideline 117 - Bioaccumulation is not expected.
p) Auto-ignition temperature	> 550 °C (> 1022 °F) at 1,020 hPa - ASTM E-659
q) Decomposition temperature	no data available

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9.2	<p>r) Viscosity s) Explosive properties t) Oxidizing properties <b>Other safety information:</b> Surface tension</p>	<p>no data available no data available no data available 67.1 mN/m at 1g/l at 19.8 °C (67.6 °F) - OECD Test Guideline 115</p>
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### 10. STABILITY AND REACTIVITY

10.1	<b>Reactivity:</b> No data available
10.2	<b>Chemical stability:</b> Stable under recommended storage conditions.
10.3	<b>Possibility of hazardous reactions:</b> No data available
10.4	<b>Conditions to avoid:</b> No data available
10.5	<b>Incompatible materials:</b> Strong bases, Metals, Oxidizing agents, Alcohols, Epoxides, Steel (all types and surface treatments), Aluminum, Reacts violently with., Alkali metals
10.6	<b>Hazardous decomposition products:</b> Other decomposition products - no data available. In the event of fire: see section 5

### 11. TOXICOLOGICAL INFORMATION

11.1	<b>Information on toxicological effects</b>
	<b>Acute toxicity:</b> No data available
	<b>Dermal:</b> No data available
	<b>Skin corrosion/irritation:</b> Skin - Rabbit Result: Corrosive Remarks: (ECHA)
	<b>Serious eye damage/eye irritation:</b> Eyes - Rabbit Result: Causes serious eye damage. Remarks: (ECHA) Remarks: Causes serious eye damage.
	<b>Respiratory or skin sensitization:</b> Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 429)
	<b>Germ cell mutagenicity:</b> Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471
	<b>Carcinogenicity:</b>
	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
	ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
	NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
	OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
	<b>Reproductive toxicity:</b> Suspected of damaging the unborn child. Suspected of damaging fertility.
	<b>Specific target organ toxicity - single exposure:</b> No data available
	<b>Specific target organ toxicity - repeated exposure:</b> Oral - May cause damage to organs through prolonged or repeated exposure. - Central nervous system
	<b>Aspiration hazard:</b> No data available
	<b>Additional Information:</b> Repeated dose toxicity Rat - male and female - Oral - NOAEL (No observed adverse effect level): 60 mg/kg - LOAEL (Lowest observed adverse effect level) - 300 mg/kg RTECS: UB6450000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### 12. ECOLOGICAL INFORMATION

12.1	<b>Toxicity:</b> Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 244 mg/l - 96 h Remarks: (ECOTOX Database)
	Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 97.3 mg/l - 48 h (OECD Test Guideline 202)
	Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 100 mg/l - 72 h (OECD Test Guideline 201) static test NOEC - Pseudokirchneriella subcapitata (green algae) - >=100 mg/l - 72 h (OECD Test Guideline 201)
12.2	<b>Persistence and degradability:</b> Biodegradability aerobic - Exposure time 28 d Result: 0 - 5 % - Not readily biodegradable. (OECD Test Guideline 301C)
12.3	<b>Bioaccumulative potential:</b> Bioaccumulation Cyprinus carpio (Carp) - 42 d at 25 °C - 1 mg/l(1,1,1,3,3,3-hexafluoro-2-propanol) Bioconcentration factor (BCF): 1.1 - 1.4 (OECD Test Guideline 305)
12.4	<b>Mobility in soil:</b> No data available
12.5	<b>Results of PBT and vPvB assessment:</b> PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6	<b>Other adverse effects:</b> No data available

### 13. DISPOSAL CONSIDERATIONS

13.1	<b>Waste treatment methods</b>
	<b>Product:</b> Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

### 14. TRANSPORT INFORMATION DOT (US)

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UN number: 3265                      Class: 8                      Packing group: I  
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1,1,1,3,3,3-hexafluoro-2-propanol)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

UN number: 3265                      Class: 8                      Packing group: I                      EMS-No: F-A, S-B  
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1,1,1,3,3,3-hexafluoro-2-propanol)

### IATA

UN number: 3265                      Class: 8                      Packing group: I  
Proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1,1,1,3,3,3-Hexafluoro-2-propanol)

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### 15. REGULATORY INFORMATION

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right to Know Components:** No components are subject to the Massachusetts Right to Know Act.

#### Pennsylvania Right to Know Components

HFIP	CAS-No.	Revision Date
	920-66-1	

#### New Jersey Right to Know Components

HFIP	CAS-No.	Revision Date
	920-66-1	

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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### 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Advanced ChemTech shall not be liable for any damage resulting in the handling or from contact with the above product.