

## Safety Data Sheet

## 1,1,1,3,3,3-Hexafluoro-2-propanol-d2

Classification acc. to 29 CFR 1910.1200

Version number: GHS 3.0  
Replaces version of: 2023-01-19 (GHS 2)

Revision: 2025-06-10

### SECTION 1: Identification

#### 1.1 Product identifier

Identification of the substance	<b>1,1,1,3,3,3-Hexafluoro-2-propanol-d2</b>
CAS number	38701-74-5
Alternative name(s)	1,1,1,3,3,3-Hexafluoro-2-propanol

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

Relevant identified uses	scientific research and development product and process oriented research and development laboratory and analytical use laboratory chemical
HS code	2845.90.

#### 1.3 Details of the supplier of the safety data sheet

Zeochem AG Joweid 5, CH-8630 Rüti Switzerland	Telephone: +41 44 922 93 93 e-Mail: <a href="mailto:info@zeochem.com">info@zeochem.com</a> Website: <a href="https://www.zeochem.com">https://www.zeochem.com</a>
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#### 1.4 Emergency telephone number

Poison center		
Country	Name	Telephone
Switzerland	Toxzentrum Zürich / Tox. Info Suisse	+41 44 251 51 51 / CH: 145 - 24h/7d
United States	CHEMTREC USA	+1 800 424 9300 - 24h/7d

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.1O	acute toxicity (oral)	4	Acute Tox. 4	H302
A.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
A.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
A.2	skin corrosion/irritation	1A	Skin Corr. 1A	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
A.7	reproductive toxicity	2	Repr. 2	H361
A.8R	specific target organ toxicity - single exposure (respiratory)	3	STOT SE 3	H335

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Section	Hazard class	Category	Hazard class and category	Hazard statement
	tract irritation)			
A.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure.

### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word danger

#### 2.2.1.2 Pictograms

GHS05, GHS07, GHS08	
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Hazard statements	
H302+H312+H332	harmful if swallowed, in contact with skin or if inhaled
H314	causes severe skin burns and eye damage
H335	may cause respiratory irritation
H361	suspected of damaging fertility or the unborn child
H373	may cause damage to organs through prolonged or repeated exposure

Precautionary statements	
P201	obtain special instructions before use
P260	do not breathe dusts or mists
P270	do not eat, drink or smoke when using this product
P271	use only outdoors or in a well-ventilated area
P280	wear protective gloves/protective clothing
P301+P330+P331	if swallowed: Rinse mouth. Do NOT induce vomiting
P302+P352	if on skin: Wash with plenty of water
P303+P361+P353	if on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340	if inhaled: Remove person to fresh air and keep 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
P310	immediately call a poison center/doctor
P321	specific treatment (see on this label)

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Precautionary statements	
P362+P364	take off contaminated clothing and wash it before reuse
P363	wash contaminated clothing before reuse
P403+P233	store in a well-ventilated place. Keep container tightly closed
P405	store locked up
P501	dispose of contents/container in accordance with local/regional/national/international regulations

### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	1,1,1,3,3,3-Hexafluoro-2-propanol-d2
Identifiers	
CAS No	38701-74-5
Purity	>90 %
Molecular formula	C3D2F6O
Molar mass	170 g/mol

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Recommendations

Store in a dry place.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

- Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.

- Specific designs for storage rooms or vessels

- Storage temperature

Recommended storage temperature: 16 – 18 °C  
15 °C

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

#### 7.3 Specific end use(s)

See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)  
this information is not available

#### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

Nitrile

IIR: isobutene-isoprene (butyl) rubber

- Breakthrough times of the glove material

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>30 minutes (permeation: level 2)

### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid
Color	not determined
Particle	not relevant (liquid)
Odor	characteristic

#### Other safety parameters

pH (value)	not determined
Melting point/freezing point	-2 °C at 1,013 hPa
Initial boiling point and boiling range	59 °C at 1,013 hPa
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	11,300 Pa at 15 °C
Density	1.61 g/cm³ at 25 °C
Vapor density	this information is not available

#### Solubility(ies)

- Water solubility	176 g/l at 20 °C
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#### Partition coefficient

- n-octanol/water (log KOW)	1.5 (25 °C) (ECHA)
Auto-ignition temperature	>550 °C at 1,020 hPa (ECHA)

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Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

### 9.2 Other information

Surface tension	67.1 mN/m (19.8 °C) (ECHA)
Refractive index	1.28 (20 °C) ((lit.))
Temperature class (USA, acc. to NEC 500)	T1 (maximum permissible surface temperature on the equipment: 450°C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

##### Acute toxicity

Harmful if swallowed. Harmful in contact with skin. Harmful if inhaled.

##### - Acute toxicity estimate (ATE)

Oral	500 mg/kg
Dermal	1,100 mg/kg
Inhalation: vapor	11 mg/l/4h

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

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- Respiratory or skin sensitization  
Shall not be classified as a respiratory or skin sensitizer.
- Germ cell mutagenicity  
Shall not be classified as germ cell mutagenic.
- Carcinogenicity  
Shall not be classified as carcinogenic.
- Reproductive toxicity  
Suspected of damaging the unborn child. Suspected of damaging fertility.
- Specific target organ toxicity - single exposure  
May cause respiratory irritation.
- Specific target organ toxicity - repeated exposure  
May cause damage to organs through prolonged or repeated exposure.
- Aspiration hazard  
Shall not be classified as presenting an aspiration hazard.

### SECTION 12: Ecological information

- 12.1 Toxicity**  
Shall not be classified as hazardous to the aquatic environment.

- 12.2 Persistence and degradability**  
Data are not available.

- 12.3 Bioaccumulative potential**  
Data are not available.

n-octanol/water (log KOW)	1.5 (25 °C) (ECHA)
BCF	≥1.1 – ≤1.4 (ECHA)

- 12.4 Mobility in soil**  
Data are not available.

- 12.5 Results of PBT and vPvB assessment**  
According to the results of its assessment, this substance is not a PBT or a vPvB.

- 12.6 Endocrine disrupting properties**  
Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

- 12.7 Other adverse effects**  
Data are not available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

- Sewage disposal-relevant information  
Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.
- Waste treatment of containers/packages  
Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled.



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Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number

DOT	UN 2922
IMDG-Code	UN 2922
ICAO-TI	UN 2922

### 14.2 UN proper shipping name

DOT	Corrosive liquid, toxic, n.o.s.
IMDG-Code	CORROSIVE LIQUID, TOXIC, N.O.S.
ICAO-TI	Corrosive liquid, toxic, n.o.s.
Technical name	1,1,1,3,3,3-Hexafluoro-2-propanol-d2

### 14.3 Transport hazard class(es)

DOT	8 (6.1)
IMDG-Code	8 (6.1)
ICAO-TI	8 (6.1)

### 14.4 Packing group

DOT	II
IMDG-Code	II
ICAO-TI	II

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration	UN2922, Corrosive liquid, toxic, n.o.s., (1,1,1,3,3,3-Hexafluoro-2-propanol-d2), 8 (6.1), II
Danger label(s)	8+6.1



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Special provisions (SP) B3, IB2, T7, TP2

ERG No 154

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant -

Danger label(s) 8+6.1



Special provisions (SP) 274

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

EmS F-A, S-B

Stowage category B

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 8+6.1



Special provisions (SP) A3, A4

Excepted quantities (EQ) E2

Limited quantities (LQ) 0,5 L

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** substance is listed (ACTIVE)

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

not listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

not listed

#### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

not listed

#### Clean Air Act

not listed

#### Right to Know Hazardous Substance List

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- Cleaning Product Right to Know Act Substance List (CA-RTK)  
not listed
- Toxic or Hazardous Substance List (MA-TURA)  
not listed
- Hazardous Substances List (MN-ERTK)  
not listed
- Hazardous Substance List (NJ-RTK)  
not listed
- Hazardous Substance List (Chapter 323) (PA-RTK)  
not listed
- Hazardous Substance List (RI-RTK)  
not listed

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

not listed

### Industry or sector specific available guidance(s)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

#### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

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### National inventories

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed (ACTIVE)

#### Legend

REACH Reg. REACH registered substances  
TSCA Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information, including date of preparation or last revision

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.3	Details of the supplier of the safety data sheet: Zeochem AG Joweid 5, CH-8630 Rüti Switzerland  Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com / info@zeochem.ch Website: https://www.zeochem.com	Details of the supplier of the safety data sheet: Zeochem AG Joweid 5, CH-8630 Rüti Switzerland  Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com Website: https://www.zeochem.com	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
7.2		- Specific designs for storage rooms or vessels	yes
7.2		Storage temperature: Recommended storage temperature: 16 – 18 °C 15 °C	yes
12.5	Results of PBT and vPvB assessment: Data are not available.	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes
12.6	Endocrine disrupting properties: Not listed.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
14.7	Special provisions (SP): A3	Special provisions (SP): A3, A4	yes
15.1	Toxic Substance Control Act (TSCA): substance is listed as "ACTIVE"	Toxic Substance Control Act (TSCA): substance is listed (ACTIVE)	yes
15.1		National inventories: change in the listing (table)	yes

#### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IM-

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DG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.