

## Safety Data Sheet

## Potassium Deuterium oxide 30-50%w

Classification acc. to 29 CFR 1910.1200

Version number: GHS 7.0  
Replaces version of: 2023-04-03 (GHS 6)

Revision: 2025-06-10

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **Potassium Deuterium oxide 30-50%w**  
CAS number 24572-01-8

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

Relevant identified uses 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: [info@zeochem.com](mailto:info@zeochem.com)  
Website: <https://www.zeochem.com>

#### 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.10	acute toxicity (oral)	4	Acute Tox. 4	H302
A.2	skin corrosion/irritation	1	Skin Corr. 1	H314

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.

#### 2.2 Label elements

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

- Signal word danger

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### 2.2.1.2 Pictograms

GHS05, GHS07	 
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Hazard statements	
H302	harmful if swallowed
H314	causes severe skin burns and eye damage

Precautionary statements	
P260	do not breathe dusts or mists
P270	do not eat, drink or smoke when using this product
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	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)
P363	wash contaminated clothing before reuse
P405	store locked up
P501	dispose of contents/container in accordance with local/regional/national/international regulations

- Hazardous ingredients for labelling

Potassium Deuterium oxide solid

### 2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

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

Not relevant (mixture)

Identifiers

CAS No	24572-01-8
Molecular formula	KOD
Molar mass	57.1 g/mol

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### 3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Deuterium oxide	CAS No 7789-20-0	50 – 70		
Potassium Deuterium oxide solid	CAS No 24572-01-8	30 – 50	Acute Tox. 4 / H302	

### Remarks

For full text of abbreviations: see SECTION 16

## 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.

### 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, BC-powder, Carbon dioxide (CO2)

#### Unsuitable extinguishing media

Water jet

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

Information on this property is not available.

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### 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

Neutralization 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

Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## 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.

- Handling of incompatible substances or mixtures

Do not mix with acids.

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

- Packaging compatibilities

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

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### 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

Relevant DNELs of components						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Potassium Deuterium oxide solid	24572-01-8	DNEL	1 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects

### 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

>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

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

### Other safety parameters

pH (value)	not determined
Melting point/freezing point	3.81 °C
Initial boiling point and boiling range	101 °C
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	20.6 mmHg at 25 °C
Density	1.4 g/cm³ at 25 °C
Vapor density	this information is not available
Solubility(ies)	not determined

### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none
<b>9.2 Other information</b>	there is no additional information

## 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".

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### 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

Acids

### 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

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

##### Acute toxicity

Harmful if swallowed.

- Acute toxicity estimate (ATE)  
Oral 666 mg/kg

Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
Potassium Deuterium oxide solid	24572-01-8	oral	333 mg/kg

##### Skin corrosion/irritation

Causes severe skin burns and eye damage.

##### Serious eye damage/eye irritation

Causes serious eye damage.

##### 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

Shall not be classified as a reproductive toxicant.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

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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.

#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

#### 12.6 Endocrine disrupting properties

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

#### 12.7 Other adverse effects

Data are not available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste treatment-relevant information

Recycling/reclamation of other inorganic materials. Regeneration of bases.

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. 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 1814
IMDG-Code	UN 1814
ICAO-TI	UN 1814

#### 14.2 UN proper shipping name

DOT	Potassium hydroxide solution
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IMDG-Code	POTASSIUM HYDROXIDE SOLUTION
ICAO-TI	Potassium hydroxide solution
<b>14.3 Transport hazard class(es)</b>	
DOT	8
IMDG-Code	8
ICAO-TI	8
<b>14.4 Packing group</b>	
DOT	II
IMDG-Code	II
ICAO-TI	II
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	
There is no additional information.	
<b>14.7 Transport in bulk according to IMO instruments</b>	
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	UN1814, Potassium hydroxide solution, 8, II
Danger label(s)	8



Special provisions (SP)	B2, IB2, T7, TP2
ERG No	154

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

Marine pollutant	-
Danger label(s)	8



Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-A, S-B
Stowage category	A


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Segregation group	18 - Alkalies
<b>International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information</b>	
Danger label(s)	8
	
Special provisions (SP)	A3
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)** not all ingredients are 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)  
none of the ingredients are listed
- Specific Toxic Chemical Listings (EPCRA Section 313)  
none of the ingredients are listed

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

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)  
none of the ingredients are listed

##### Clean Air Act

none of the ingredients are listed

##### Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)  
none of the ingredients are listed
- Toxic or Hazardous Substance List (MA-TURA)  
none of the ingredients are listed
- Hazardous Substances List (MN-ERTK)  
none of the ingredients are listed
- Hazardous Substance List (NJ-RTK)  
none of the ingredients are listed
- Hazardous Substance List (Chapter 323) (PA-RTK)  
none of the ingredients are listed
- Hazardous Substance List (RI-RTK)  
none of the ingredients are listed

##### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and

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### Toxic Enforcement Act of 1987

none of the ingredients are listed

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

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	0	material that will not burn under typical fire conditions
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	0	material that will not burn under typical fire conditions
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		

### National inventories

Country	Inventory	Status
EU	REACH Reg.	not all ingredients are listed
US	TSCA	not all ingredients are listed

#### Legend

REACH Reg. REACH registered substances  
TSCA Toxic Substance Control Act

## 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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### 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	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$ .	yes
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
3.2		Description of the mixture: change in the listing (table)	yes
3.2		Remarks: For full text of abbreviations: see SECTION 16	yes
5.2	Special hazards arising from the substance or mixture	Special hazards arising from the substance or mixture: Information on this property is not available.	yes
12.5	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0,1\%$ .	Results of PBT and vPvB assessment: Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0.1\%$ .	yes
12.6	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$ .	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$ .	yes
14.2	DOT: Potassium hydroxide solutions	DOT: Potassium hydroxide solution	yes
14.7	Particulars in the shipper's declaration: UN1814, Potassium hydroxide solutions, 8, II	Particulars in the shipper's declaration: UN1814, Potassium hydroxide solution, 8, II	yes
15.1		Toxic Substance Control Act (TSCA): not all ingredients are listed (ACTIVE)	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 (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

#### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Code	Text
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

### Disclaimer

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