



Safety Data Sheet

This Safety Data Sheet is valid for all concentrations of potassium hydroxide solution **with** DMSO.

Section 1. Identification	
Product Identification and Item Numbers:	Potassium Hydroxide, 10% with DMSO solution <ul style="list-style-type: none"> • (KOHD/10/1, KOHD/10/2) Potassium Hydroxide, 20% with DMSO solution <ul style="list-style-type: none"> • (KOHD/20/1, KOHD/20/2)
Product Description:	Potassium Hydroxide 10% with DMSO, in Purified Water Potassium Hydroxide 20% with DMSO, in Purified Water
Recommended use and restrictions on use:	N/A
Supplier:	Delasco 608 13 th Avenue Council Bluffs, IA 51501 1-712-323-3269 www.delasco.com questions@delasco.com
In Case of Emergency, Contact:	Chemtrec (24 hour) 1-800-424-9300

Section 2. Hazard(s) Identification	
Classification:	
Acute toxicity, Oral (Category 4) Eye irritation (Category 2) Metal corrosion (Category 1) Skin corrosion (Category 1A) Skin irritation (Category 2)	
Labeling:	
Hazard symbol(s):	
	
GHS07: exclamation mark	GHS05: corrosion
Signal word:	Warning!
Hazard statements:	
H227: Combustible liquid. H290: May be corrosive to metals. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation.	
Precautionary statements:	
<u>Potassium Hydroxide Precautions:</u> P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. P303 + P361 + P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. P310: Immediately call a POISON CENTER or doctor/ physician. P280: Wear protective gloves and eye and face protection.	
<u>DMSO Precautions:</u> P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P403 + P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container to an approved waste disposal plant.	

Section 3. Composition/Information on Ingredients	
Chemical Name and Concentration:	Potassium Hydroxide Concentration: 8% - 20% Dimethyl Sulfoxide Concentration: 35% - 70% Water Concentration: 80% - 92%
Other Names, Common Names, Synonyms:	<u>Potassium Hydroxide</u> - Caustic potash - liquid or solutions; Potassium hydrate <u>Dimethylsulfoxide</u> – Dimethylsulphoxide, Methyl Sulfoxide, DMSO
CAS Number, other unique identifiers:	Mixture: Potassium Hydroxide CAS# 1310-58-3 Dimethylsulfoxide CAS# 67-68-5 Water CAS# 7732-18-5
Other classified impurities or stabilizers:	N/A
Other ingredients posing health hazards:	N/A
Concentration of other hazardous ingredients:	N/A

Section 4. First-aid Measures	
Inhalation exposure:	Remove person to fresh air. Seek medical attention. Give oxygen or artificial respiration as needed.
Skin exposure:	Get medical aid. Wash off with soap and plenty of water immediately while removing contaminated clothing/shoes.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Continue rinsing eyes during transport to hospital.
Ingestion:	NEVER give anything by mouth to an unconscious person. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Immediately have victim drink several glasses of water to dilute. Seek medical attention.

Section 5. Fire Fighting Measures	
Suitable / unsuitable extinguishing media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards / combustion products:	Under fire conditions, potassium oxides, carbon oxides, sulfur oxides, and other toxic fumes may be produced.
Special protective equipment and precautions for fire-fighters:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.
NFPA Hazard Classification	Health – 3 Flammability – 2 Instability – 0 0-Minimal 1-Slight 2-Moderate 3-Serious 4-Severe

Section 6. Accidental Release Measures	
Personal precautions and protective equipment:	Use personal protective equipment. Avoid the inhalation of vapors, mist, dust, or gas. Confirm adequate ventilation prior to use of product. Remove personnel from the area. Take normal fire prevention measures. Do not touch damaged containers or spilled material unless wearing chemical protective clothing. Stop leak if you can do it without risk.
Environmental Precautions:	Prevent entry into drains, waterways, and sewers.
Containment / clean up methods:	Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished. Dispose as hazardous waste.

Section 7. Handling and Storage	
Precautions for safe handling:	Do not get on skin or in eyes. Do not inhale vapor or mist. Take normal fire prevention measures. Provide sufficient air exchange and/or exhaust in work rooms. Handle and open container with care.
Conditions for safe storage:	Take normal fire prevention measures. Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatibilities to avoid:	Take normal fire prevention measures. Avoid Acetyl Chloride, Acyl Halides, Benzenesulfonyl Chloride. Can react with oxidizing materials.

Section 8. Exposure Controls and Personal Protection	
OSHA Permissible Exposure Limit (PEL):	For Potassium Hydroxide: CEIL: 2 (mg/m ³) from OSHA (PEL)
Threshold Limit Value (TLV):	Not available
Other exposure limits:	For Potassium Hydroxide: (NIOSH) Ceiling: 2 mg/m ³ (NIOSH Recommended Exposure Limit) (ACGIH) Ceiling 2 mg/m ³ (ACGIH Threshold Limit Value) For DMSO: Dimethyl Sulfoxide 250 ppm TWA (AIHA WEEL)
Engineering controls:	Use fume hood or other means of adequate ventilation. Electrical equipment should be grounded and conform to applicable electrical code.
Personal protective equipment:	Respiratory Protection Use adequate ventilation, such as a fume hood. Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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). Eye Protection Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU). Maintain eye wash fountain and quick-drench facilities in work area. Skin Protection Wear impervious protective clothing, including footwear, rubber gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Inspect gloves prior to use. Avoid skin contact when removing gloves. Wash and dry hands.
Other personal protection measures:	Provide nearby eyewash station and safety shower.

Section 9. Physical and Chemical Properties	
Appearance (physical state, color, etc.):	Clear, colorless solution with characteristic odor.
Odor:	Characteristic odor
Odor threshold:	Data not available.
pH:	Data not available for solutions of potassium hydroxide and DMSO.
Melting point / freezing point:	Data not available for solutions of potassium hydroxide and DMSO.
Initial boiling point and boiling range:	Data not available for solutions of potassium hydroxide and DMSO.
Flash point:	Data not available for solutions of potassium hydroxide and DMSO.
Evaporation rate:	Data not available for solutions of potassium hydroxide and DMSO.
Flammability	Data not available for solutions of potassium hydroxide and DMSO.
Upper / lower flammability or explosive limits:	Data not available for solutions of potassium hydroxide and DMSO.
Vapor Pressure:	Data not available for solutions of potassium hydroxide and DMSO.
Vapor density:	Data not available for solutions of potassium hydroxide and DMSO.
Relative density:	Data not available for solutions of potassium hydroxide and DMSO.

Solubility:	Data not available for solutions of potassium hydroxide and DMSO.
Partition coefficient: n-octanol/water:	Data not available for solutions of potassium hydroxide and DMSO.
Auto-ignition temperature:	Data not available for solutions of potassium hydroxide and DMSO.
Decomposition temperature:	Data not available for solutions of potassium hydroxide and DMSO.
Viscosity:	Data not available for solutions of potassium hydroxide and DMSO.

Section 10. Stability and Reactivity	
Chemical stability:	The product is stable under normal storage conditions.
Possibility of hazardous reactions:	Data not available for solutions of potassium hydroxide and DMSO.
Conditions to avoid (static, shock, vibration...)	Avoid exposure to excessive heat and ignition sources.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	Under fire conditions, potassium oxides may be produced. When heated to decomposition, may emit toxic fumes, carbon monoxide, carbon dioxide, sulphur oxides, formaldehyde, methyl mercaptan, dimethyl sulfide.

Section 11. Toxicological Information	
Routes of exposure:	Skin, eyes, inhalation, Ingestion
Acute Symptoms (acute):	<ul style="list-style-type: none"> Inhalation: Respiratory tract irritant. Can cause serious burns on acute contact. Inhalation of a high concentration of vapors may cause headache, dizziness, and sedation. Eye Contact: Irritant, possibly corrosive to eye tissues. Can cause severe eye damage. Skin Contact: May cause skin irritation, burning or stinging sensation, redness, and hives. Can cause rapid corrosion of skin and severe skin burns. Ingestion: Toxic! Corrosive to mucous membranes and may cause perforation of the esophagus and stomach. Abdominal pain, nausea, vomiting, and overall gastrointestinal upset can be expected.
Symptoms (chronic): Chronic effects from short and long term exposure:	<ul style="list-style-type: none"> Skin: Development of a defatting dermatitis on prolonged contact with potassium hydroxide has been reported. DMSO contact may result in skin irritation. Inhalation: Continued irritation may lead to increased susceptibility to respiratory illness. Ingestion: Nausea, vomiting, loss of appetite. May affect the blood and kidneys.
Numerical measures of toxicity (e.g., acute toxicity estimates):	<u>Dimethyl Sulfoxide:</u> LD50/oral/rat = 14500 mg/kg Oral LD50 Rat LD50/oral/mouse = 7920-21400 mg/kg LD50/dermal/rat = 40 g/kg Dermal LD50 Rat LD50/dermal/rabbit = No information available LC50/inhalation/rat = >1600 mg/m ³ 4 h LC50/inhalation/mouse = No information available Other LD50 or LC50 information = 17400 mg/kg LD50 oral Rat 28300 mg/kg LD50 oral Rat
NTP carcinogen:	Not identified
EPA carcinogen:	Not available
ACGIH carcinogen:	Not identified
IARC potential carcinogen:	Not identified
OSHA carcinogen:	Not identified

Section 12. Ecological Information (Non-mandatory)	
Ecotoxicity (aquatic and terrestrial, where available):	Not available
Persistence and degradability:	Not available
Bioaccumulative potential:	Not available
Mobility in soil:	Not available
Other adverse effects:	Not available

Section 13. Disposal Considerations (Non-mandatory)	
Safe methods of disposal:	Contact a licensed professional waste disposal service. Observe all federal, state, and local environmental regulations.

Section 14. Transport Information (Non-mandatory)						
US DOT	UN number:	UN1814	Class:	8	Packing Group:	II
UN proper shipping name:			Potassium Hydroxide, Solution			
Packing group, if applicable:			PG: II			
Environmental hazards (marine pollutant, etc...)			N/A			
Special transport precautions:			N/A			

Section 15. Regulatory Information (Non-mandatory)	
Specific safety, health, and environmental regulations:	N/A

Section 16. Other information	
Date of preparation or last revision:	September 19, 2018