

MATERIAL SAFETY DATA SHEET

Section 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

COMPANY Delshine Chemicals
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BRAND NAME – HI CLEAN
TRADE NAME – HI CLEAN
SHIPPING NAME (section 14) CAUSTIC ALKALI LIQUID NOS
(POTASSIUM HYDROXIDE)
USE – CLEANING OVENS , HOT PLATES ETC
RESTRICTIONS – KEEP AWAY FROM ACIDS AND METALS

Section 2 HAZARDS CLASSIFICATION / IDENTIFICATION

CLASSIFIED AS : **HAZARDOUS – According to the criteria of NOHSC and Classified as a Dangerous Good according to the ADG Code.**

UN NUMBER : 1719

Emergency overview – Product is corrosive to all human tissue. Mist may irritate eyes and respiratory tract.

Routes of Exposure – Potassium hydroxide can affect the body if it is inhaled or if it comes in contact with the eyes or skin. It can also affect the body if it is swallowed.

Health Hazards – Acute

Ingestion – Swallowing potassium hydroxide may cause severe burns of the mouth , throat , oesophagus and stomach. Death may result. Severe scarring of the throat may occur on recovery after swallowing potassium hydroxide. An increase number of oesophageal cancer cases have been reported to occur in individuals who have scarring of the oesophagus from swallowing potassium hydroxide.

Inhalation – Effects from inhalation of the dust mist or spray will vary from mild irritation to destructive burns depending on the severity of exposure. Severe pneumonitis may occur.

Skin – Contact with skin may cause skin irritation and with greater exposure severe burns with scarring.

Eyes – Potassium hydroxide is destructive to eye tissue on contact. Will cause severe burns that result in damage to the eyes and even blindness. Contact lenses should not be worn when working with this chemical.

Section 2 Cont HAZARD CLASSIFICATION / IDENTIFICATION

Chronic Health Hazards – The chronic local effect may consist of multiple areas of superficial destruction of the skin or of primary irritation dermatitis. Similarly inhalation of dust spray or mist may result in varying degrees of irritation or damage to the respiratory tract tissues and an increased susceptibility to respiratory illness.

Signs and Symptoms – A physician should be contacted if anyone develops any signs or symptoms and suspects that they are caused by exposure to potassium hydroxide.

Effects of Overexposure - Potassium hydroxide is a strong alkali and is corrosive to any tissue with which it comes in contact.

Emergency Conditions Generally Aggravated by Exposure – Potassium hydroxide is a respiratory irritant. Persons with impaired pulmonary function may be at increased risk from exposure.

RISK PHRASES : R35 – Causes severe burns.

R41 – Risk of serious damage to eyes.

SAFETY PHRASES: S1/2 – Keep locked up and out of reach of children.

S24/25 – Avoid contact with skin and eyes.

S26 – In case of contact with eyes rinse immediately with plenty of water and seek medical advice.

S37/39 – Wear suitable gloves and eye/face protection.

S45 – In case of accident or if you feel unwell seek medical advice immediately (show label whenever possible)

Section 3 COMPOSITION / INFORMATION OF INGREDIENTS

Chemical Entity:	CAS No:	Proportion (% mass)
Potassium Hydroxide	1310-58-3	10 – 30 %
Sodium Metasilicate Penthydrate	10213-79-3	<10

Section 4 FIRST AID MEASURES

Ingestion – If the person is conscious give them large quantities of water immediately to dilute the potassium hydroxide. Do Not attempt to make the exposed person vomit. GET MEDICAL ATTENTION IMMEDIATELY.

Inhalation : Move the person to fresh air at once. If breathing has stopped perform artificial respiration. If breathing is difficult give oxygen. Keep the affected person warm and at rest. GET MEDICAL ATTENTION IMMEDIATELY.

Skin – Immediately flush contaminated skin with water. If large areas of the body are contaminated or if clothing is penetrated, immediately use safety shower , remove clothing while under the shower. Flush exposed area with large amount of water for at least 15 minutes. GET MEDICAL ATTENTION IMMEDIATELY. Wash clothing before reuse.

Eyes – Immediately flush eyes with a directed stream of water for at least 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of all eye and lid tissue. Washing eyes within 1 minute is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY. Contact lenses should not be worn when using this chemical.

First Aid Facilities: Ensure an eye bath and safety shower are available and ready for use.

Section 5

FIRE FIGHTING MEASURES

**Flash point – Not combustible – Autoignition Temperature – Not combustible
Unusual Fire and Explosion Hazards – Not combustible. Contact with some metals can generate hydrogen gas.**

Extinguishing Media – This product is not combustible. Water spray , foam , carbon dioxide or dry chemicals may be used where this product is stored.

Special Firefighting Procedures – Full protective clothing and self-contained breathing apparatus should be worn in areas where product is stored.

HAZCHEM CODE 2R

Section 6

ACCIDENTAL RELEASE MEASURES

Accidental Release Measures – Leaks should be stopped. Spills should be contained and cleaned up immediately. Spills should be removed by using a vacuum truck. Neutralize remaining traces of material with any dilute inorganic acid such as a hydrochloric, sulfuric, nitric , phosphoric or acetic acid. The spill area should then be flushed with water followed by liberal covering of sodium bicarbonate. All clean up material should be removed and placed in approved containers, labeled and stored in a safe place to await proper treatment or disposal. Spills on areas other than pavement (dirt or sand) may be handled by removing the affected soils and placing in approved containers. Persons not wearing protective equipment and clothing should be restricted from the areas of spills until cleanup has been complete.

Section 7

HANDLING AND STORAGE

Store in a cool dry area.

Prevent possible eye and skin contact by wearing protective clothing and equipment. Storage tanks must be vented and diked. Store drums of products separate from Acids and metals. Provide adequate drainage.

Other Precautions – Potassium hydroxide reacts with reducing sugars as fructose lactose, maltose , galactose , laevulose and arabinose to form carbon monoxide. While the potential for worker exposure to carbon monoxide may be small a potential does exist during cleaning of certain dairy and possibly other industry equipment. Carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and can cause death. Follow appropriate tank entry procedures.

Special Mixing and Handling Instruction – If added to acids a rapid temperature increase Can result in dangerous boiling and / or spattering or may cause an immediate violent Eruption.

Section 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

NOHSC exposure standards for atmospheric contaminants – Potassium Hydroxide

TWA 2 mg/m³ STEL Peak Limitation

Respiratory Protection – Good industrial hygiene practices recommend that engineering controls be used to reduce environment concentrations to the permissible exposure level. If the use of respirators is necessary the only respirators permitted are those that have been approved by the NOHSC (AS 1715/1716)

Ventilation : Ventilation is not usually required for potassium hydroxide solutions. Avoid creation of mist or spray. If present wear appropriate safety clothing and provide local exhaust system. Where carbon monoxide may be generated special ventilation may be required.

Protective Clothing – Employees should be provided with and required to use impervious clothing , gloves , face shield , (eight inch minimum) and other appropriate protective clothing necessary to prevent any possibility of skin contact with solutions of potassium hydroxide. Material suggested for use are natural rubber , butyl rubber , neoprene or vinyl.

Eye Protection - Employees should be provided with and required to use dust and splash proof safety goggles where there is any possibility of potassium hydroxide contacting the eyes. Contact lenses should not be worn when using this chemical.

Other Protective Clothing or Equipment – Eye wash stations and safety shower must be available in the immediate work area for emergency use.

Work / Hygiene Practices – Avoid contact with skin avoid breathing dust or mist. Do not eat , drink or smoke in work area. Wash hands before eating drinking or using toilet facilities.

Section 9 PHYSICAL & CHEMICAL PROPERTIES

APPEARANCE – Yellowish liquid

ODOUR - Alkaline

PH 13.7 approx

VAPOUR PRESSURE – No data

BOILING POINT °C - 100

VAPOUR DENSITY – No data

FREEZING POINT °C – no data

SOLUBILITY - Complete

SPECIFIC GRAVITY – 1.24

ADDITIONAL INFORMATION

Section 10 STABILITY & REACTIVITY

Stability – Stable – Hazardous Polymerization – Will not occur

Conditions to Avoid - Overheating in storage accelerates corrosion.

Materials to Avoid – Contact with water , acids , flammable liquids and organic halogen compounds, especially trichloroethylene may cause fire and explosion. Contact with metals such as aluminum , tin , and Zinc and alloys containing these metals cause formation of flammable hydrogen gas. Contact with nitromethane and other similar nitro compounds cause formation of shock sensitive salts.

Hazardous Decomposition Products – None

Section 11 TOXICOLOGICAL INFORMATION

Potassium Hydroxide is a strong alkali – the mist, dust and solutions cause severe injury to the eyes, mucous membranes and skin. Although inhalation is usually of secondary importance in industrial exposures the effects from the dust or mist will vary from mild irritation of the nose at 2mg/m³ to severe pneumonitis, depending on the severity of exposure. The greatest industrial hazard is rapid tissue destruction of eyes of skin upon contact with either the solid or with concentrated solutions. Contact with eyes causes disintegration and sloughing of conjunctival and corneal epithelium corneal opacification marked oedema and ulcerations after 7 to 13 days either gradual recovery begins or there is progression of ulceration and corneal opacification. Complication of severe eye burns are symblepharon (adhesion of the lid to the eyeball) with overgrowth of the cornea by a vascularized membrane, progressive or recurrent cornea ulceration and permanent corneal opacification. On the skin solutions of 25 to 50 % cause the sensation of irritation within 3 minutes; with solutions of 4 % this does not occur until after several hours. If not removed from the skin, severe burns with deep ulcerations will occur, exposure to the dust or mist may cause multiple small burns with temporary loss of hair. Ingestion produces severe pain in the oesophagus and stomach corrosive of the lips, mouth, tongue and pharynx and the vomiting of large pieces of mucosa; causes of squamous cell carcinoma of the oesophagus have occurred with latent periods of 12 – 42 years after ingestion; these cancers may have been sequelae of tissue destruction and possibly scar formation rather than from a direct carcinogenic action of Potassium hydroxide itself.

Toxicity Data – Sodium Metasilicate Oral LD50 = 1280mg/kg (Rat) Dermal LD50 = not available Skin (Human) 250 mg/24hrs severe, Inhalation LC50 = not available. Not listed as a carcinogen by OSHA, NTP or IRAC.

Section 12 ECOLOGICAL INFORMATION

No Information

Section 13 DISPOSAL CONSIDERATIONS

Dispose in approved chemical disposal area or in a manner which complies with all local state and federal regulations. Do not flush to sewer.

Section 14 TRANSPORT INFORMATION

UN NUMBER : 1719

**UN PROPER SHIPPING NAME : Caustic Alkali Liquid NOS
(Potassium Hydroxide)**

CLASS: 8

PACKING GROUP: 11

HAZCHEM CODE: 2R

Section 15	REGULATORY INFORMATION
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POISONS SHEDULE (SUSDP) Labelling – Schedule : S6 – Requires child proof lid – all volumes. Safety Directions : Corrosive. May produce severe burns. Attacks skin and eyes. Wear eye protection when mixing or using. Do not mix with hot water.

First Aid Instructions : For advice contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once . If swallowed do not induce vomiting. If in eyes hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the poisons centre or a doctor or for at least 15 minutes. If skin or hair contact occurs remove contaminated clothing and flush skin and hair with running water.

NOHSC Labelling : C – Corrosive , R35 Causes severe burns, S1/2 Keep locked up and out of reach of children, S26 In case of contact with eyes rinse immediately with plenty of water and seek medical advice , S36/37/39 Wear suitable protective clothing , gloves and eye/face protection. S45 In case of accident or you feel unwell seek medical advice immediately. (Show label whenever possible)

Section 16	OTHER INFORMATION
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Carcinogenicity Lists (Potassium Hydroxide) : No ; NTP : No ; IARC Monograph : No ; OSHA Regulated: Yes

DATE OF LAST REVISION OF MATERIAL SAFETY DATA SHEET :

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AUTHORISATION FOR ISSUE

____/____/____

DATE

Les Buss

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