Material Safety Data Sheet

Infosafe No. 8AC2H Issue Date: May 2011
Product Name: **Potassium Hydroxide Flake**

Classified as hazardous

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Potassium Hydroxide Flake
Product Code:P852844
Product Use: Manufacture of soaps, printing inks, paint and varnish removers, dyestuffs, liquid fertilizers and herbicides; electroplating, photoengraving and lithography; electrolyte in alkaline storage batteries and some fuel cells; mordant for wood; absorbent for carbon dioxide and hydrogen sulphide; organic synthesis; food additive.
Company Name:Beaumaris Pharmacy (ABN 20 020 277 951)
Address: 1A East Concourse
Beaumaris
3193
Phone: 03 9589 2676
Fax: 03 9589 2014
Other Names: Lye
Potassa
Koh
Hydroxyde de potassium
Potassium Hydroxide
Caustic Potash
Potassium Hydrate

Other information: Beaumaris Pharmacy has taken care in compiling this information. No liability is accepted whether direct or indirect from its application since the conditions of final use are outside Beaumaris Pharmacy's control.

2. COMPOSITION, INFORMATION ON INGREDIENTS

3. HAZARDS IDENTIFICATION

Causes severe burns

4. FIRST AID MEASURES

Inhalation: Remove source of contamination or move victim to fresh air.
Obtain immediate medical advice.

Ingestion: Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If victim can swallow, have him/her drink 8 to 10 ozs (240-300ml) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Report administration of water. Obtain medical attention immediately.

Skin: Avoid direct contact with this chemical. Wear impervious protective gloves, if necessary. As quickly as possible, flush contaminated area with lukewarm, gently running water for at least 30 minutes, by the clock. Under running water, remove contaminate clothing, shoes and leather goods (eg watch bands, belts). If irritation persists, repeat flushing. Obtain medical attention immediately. Completely decontaminate clothing, shoes and leather goods before re-use or discard.

First Aid Facilities: Eye wash station, safety shower and normal washroom facilities.

Advice to doctor: Treat symptomatically as for strong alkalis

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Use an extinguisher appropriate to the material which is burning. Water can be used to extinguish a fire in an area where potassium is stored as long as the water does not come in contact with the potassium hydroxide.

Special Fire Fighting: It is recommended that firefighters wear self contained breathing apparatus and full protective clothing in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

Unusual Fire &

Explosion Hazards: Potassium Hydroxide and its solutions will not burn or support combustion. However, reaction of potassium hydroxide with a number of commonly encountered materials can generate sufficient heat to ignite nearby combustible materials.

6. ACCIDENTAL RELEASE MEASURES

Other Information: Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear adequate protective clothing and equipment. Ventilate area of spill. Remove combustible materials from the vicinity of the major spill. Contain spill or leak. Do not allow entry into sewers or waterways. Shovel or sweep up dry potassium hydroxide for recycling or disposal. Neutralize final traces and flush area with water. Spilled solutions should be contained by diking with inert materials, such as sand or earth. Solutions can be recovered or carefully diluted with water and cautiously neutralized with acids such as acetic or hydrochloric acid.

7. HANDLING AND STORAGE

Corrosiveness: Corrosive to aluminium. Corrosive to steel at elevated temperatures. **Handling precautions**: Avoid generating mist or dust. Keep solid KOH away from water. Post "DO NOT USE WATER" signs in the area of use. When diluting or preparing solution, add caustic soda to water in small amounts to avoid boiling and splattering. Label containers and keep closed when not in use. Empty containers may contain residues which are hazardous.

Precautions to be taken in storage: Store in water tight containers in a cool, dry place separate from the normal work area. Materials that react violently with potassium hydroxide and easily ignitable materials should not be stored in. the same area. Use corrosion resistant structural materials, lighting and ventilation systems in the storage area. Store in suitable labeled containers. Keep containers closed when not in use and when empty. Protect from damage. Limit quantity of material in storage. Restrict access to storage area. Post warning signs when appropriate. Keep storage area separate from populated work areas. Inspect periodically for deficiencies such as damage or leaks.

Inhalation: If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection . Specific Respiratory Protection Guidelines have not been developed for respiratory protection from Potassium hydroxide mists or dusts. However, respiratory protection guidelines would be expected to be very similar to those for sodium hydroxide. Sodium hydroxide respiratory guidelines follow

Recommendations for sodium hydroxide:

Concentrations in air: Up to 50mg/m³: Powered air-purifying respirator with dust and mist Filters; or SAR operated in a continuous flow mode.

Up to 100mg/m³: Full-facepiece SCBA; or full face piece SARF; or full face piece respirator with high-efficiency particulate filter(s)

Up to 250mg/m³: Positive pressure full face piece SAR with an auxiliary positive pressure SCBA.

Escape: Full face piece respirator with high efficiency particulate filter(s); or escape-type SCBA. Note: The IDLH concentration for sodium hydroxide is 250mg/m³. Note: Substance causes eye irritation or damage, eye protection needed.

Abbreviations: SAR= supplied air respirator SCBA= self contained breathing apparatus IDLH= Immediately dangerous to life or health. Note: in these recommendations the IDLH concentration Is defined as the maximum concentration which would not cause any escape-impairing symptoms Or irreversible health effectes to a person exposed for 30 minutes if the respirator failed.

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Protective Gloves:Gloves, cover-alls, aprons, overshoes etc as needed

Eng. Controls: Engineering control methods to reduce hazardous exposures are preferred. General methods Include mechanical ventilation (dilution and local exhaust), process or personnel enclosure, Control of process conditions and process modification (eg. Substitution of a less hazardous material) Admistrative controls and personal protective equipment may also be required. Use a corrosion-resistant ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Use local exhaust ventilation, and process enclosure if necessary to control airborne dust/mist. Supply sufficient replacement air to make up for air removed by exhaust systems.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White odourless solid. Available as pellets, flakes, lumps or sticks. Commonly Available in solution. Hygroscopic (absorbs moisture from the air) **Odour Threshold:** Odourless **Warning Property**: (odour/irrit) Poor- no odour
Melting Point:	Approx 360°C (680°F)
Solubility in water:	107G/100ml @ 15°C; 178g/100ml @ 100°C
Solubility in other liquids:	Soluble in alcohol, glycerol; insoluble in ether and ammonia
Boiling Point:	Approx 1320°C (2408°F) @ 760mmHg
Specific Gravity:	2.044 @ 20°C (H2O=1)
pH value:	Approx 13 (1% solution)
Vapour pressure:	essentially zero
Vapour density	Not applicable (air=1)
Flash point:	Not applicable (does not burn))
Flammability:	Not flammable or combustible
Ignition Temperature:	Not applicable
Flammable limits:	Not applicable
Molecular weight:	56.1

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions

Hazardous Polymerization: Will not occur

Hazardous Reaction: **Acids**. Viloent reaction can occur, yielding heat and pressure which can burst an enclosed container **Water:** reaction may generate enough heat to ignite combustible materials **Metal:** Reaction may produce flammable and explosive hydrogen gas. **Organohalogen compounds:** may react to form spontaneously combustible compounds **Maleic anhydride and nitro and chloro organic compounds:** May react explosively.

11.TOXICOLOGICAL INFORMATION

Toxicological Information: Animal Toxicity data: LD50 (rat, oral): 365mg/kg irritant dose (rabbits, dermal): 50mg/24hr - severe skin irritant . Irritant doe (rabbits, ocular): 1mg/24hour- moderate eye irritant. More detailed information about the effects of chemicals on health can be obtained from Worksafe Australia.

Inhalation : Most references indicate that irritation of the nose throat and lungs could occur due to the corrosive nature of potassium hydroxide. However, severe injury is usually avoided by self-limiting –sneezing, coughing and discomfort

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Ingestion: There are no reported cases of industrial workers ingesting potassium hydroxide or its solutions. Should ingestion occur, severe pain, burning of the mouth, throat and oesophagus, vomiting diarrhea, collapse and possible death may result..

Skin: Extremely corrosive. Capable of causing severe burns with deep ulceration. Can penetrate to deeper layers of skin. Corrosion will continue until removed. Severity depends on the concentration and duration of exposure. Burns are not immediately painful, onset of pain may be minutes to hours.

Eye: Extremely corrosive. Can penetrate deeply, causing irritation or severe burns depending on the concentration and duration of exposure. In severe cases, ulceration and permanent blindness may occur.

Chronic Effects : **Health effects**: There have been no documented effects due to long term exposure to potassium hydroxide.
Carcinogenicity: Potassium and sodium hydroxide have been implicated as a cause of cancer of the oesophagus in individuals who have ingested it. The cancer may develop 12 to 42 years after the ingesion incident. Similar cancers have been observed at the sites of severe thermal burns. These cancers may be due to tissue destruction and scar formation rather than the action of the hydroxide itself. Not classified as a carcinogen by Worksafe Australia.

12. ECOLOGICAL INFORMATION

Information on Ecological effects:

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Federal, state and local regulations should be reviewed prior to disposal. May be possible to neutralize, dilute and flush the material into a sewer. Harmful to aquatic life in high concentrations..

14. TRANSPORT INFORMATION

This material is classified as a class 8 Corrosive substance according to the Australian Code for the Transport of Dangerous Goods by Road and Rail

Cass 8-Corrosive substances are incompatible in a placard load with any of the following

- Class 1 –explosives
- Class 4.3- Dangerous when wet substances
- Class 5.1-Oxidising Agents & Class 5.2- Organic peroxides
- Class 6- Toxic substances (Where the toxic substances are cyanides and the corrosives are acids.)
- Class 7- Radioactive substances

And are incompatible with food and food packaging in any quantity.

U.N. Number: 1813
Proper Shipping name: Potassium hydroxide, solid
DG Class: 8
Hazchem Code: 2X
Packaging method: 5.9.8
EPG Number: 8A1
Packing Group: II
IERG Number: 37

15. REGULATORY INFORMATION

Risk Phrase; R35 Causes severe burns

Safety Phrase: 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

Hazard Category: Corrosive
Poison Schedule S6

MATERIAL SAFETY DATA SHEET

16. OTHER INFORMATION

Contact Person/Point: Beaumaris Pharmacy
1a East Concourse
Beaumaris, 3193
Tel. 03 9589 2676
Fax: 03 9589 2014

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Poisons schedule: Not scheduled.

Empirical Formula & Structural formula: Molecular Formula: KOH

End of MSDS