



Chemicals Inc.

MATERIAL SAFETY DATA SHEET

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CAUSTIC POTASH DRY

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SECTION I

MATERIAL IDENTIFICATION

| | | |
|----------------------------|---|--------------------------------------|
| CHEMICAL NAME: | Potassium Hydroxide, Solid | C.A.S. NO.: |
| | 1310-58-3 | |
| TRADE NAME: | Potassium Hydroxide, Dry, Solid, Flake | |
| SYNONYMS: | Caustic Potash, Potassium Hydroxide | WHMIS: 1% |
| CHEMICAL FORMULA: | KOH | CERCLA: Yes |
| CHEMICAL FAMILY: | Alkali | TSCA INVENTORY: Yes |
| N.F.P.A. REGISTRY: | 3-0-1 | H.M.I.S.: 3-0-1-D+ |
| LABELING: | Corrosive | REPORTABLE QUANTITY: 1000 Lbs |
| D.O.T. IDENTIFICATION NO.: | UN 1813 | D.O.T. PACKING GROUP: II |
| D.O.T. SHIPPING NAME: | Potassium Hydroxide, Dry, Solid, Flake | D.O.T. HAZARD GUIDE: #154 |
| D.O.T. HAZARD CLASS: | 8 | PLACARD: UN 1813 |

SECTION II

INGREDIENTS AND HAZARDS

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| PRINCIPAL COMPONENT: | KOH | PERCENT: | 85-90% |
| | Trace impurities - remainder is water. | | |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES: | This material reacts violently with acids, halogenated hydrocarbons, nitrocarbons and trichloroethylene. Anhydrous KOH can slowly pick up moisture from the atmosphere and react with carbon dioxide from air to form potassium carbonate. It also reacts with aluminum, tin, and zinc in the presence of moisture. | | |
| ADDITIONAL INFORMATION: | ACGIH TLV = (C) 2mg/m³ OSHA PEL = None. | | |

SECTION III

PHYSICAL DATA

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| VAPOR PRESSURE (mm Hg): | At 1317°F = 1 mm | BOILING POINT: | 2415° F |
| VAPOR DENSITY (AIR = 1): | N/A | | |
| APPEARANCE/ODOR: | White hygroscopic flake, pellet, briquette, etc. No odor. | | |
| PERCENT VOLATILE BY VOLUME: | Non-Volatile at room temperature. | | |
| EVAPORATION RATE: | Solid. | | |
| SOLUBILITY IN WATER: | At 20°C = 52.8% by weight. | | |
| SPECIFIC GRAVITY (H ₂ O=1): | 2.044 | MOLECULAR WEIGHT: | 56.1 |
| FREEZE/SOLIDIFICATION TEMPERATURE: | 715°F | | |

SECTION IV

FIRE AND EXPLOSION DATE

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| FLASH POINT (METHOD): | None. |
| FLAMMABLE LIMITS: | Non Flammable. |
| EXTINGUISHING MEDIA: | Suitable for surrounding fire. Keep material cool and dry. |
| AUTO IGNITION TEMP: | Non-combustible. |
| SPECIAL FIRE FIGHTING PROCEDURES: | Wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece operated in positive pressure mode. |
| UNUSUAL FIRE/EXPLOSION HAZARDS: | This material can melt and flow when heated to 715°F. Hot molten material will react violently with water resulting in spattering and fuming. |
| ADDITIONAL INFORMATION: | In the molten or liquid state, this material will react with some metals such as aluminum, tin, zinc, etc. to produce flammable hydrogen gas. |

SECTION V**HEALTH HAZARD DATA**

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| OSHA PERMISSIBLE EXPOSURE LIMIT: | None. |
| ACGIH THRESHOLD LIMIT VALUE: | (C) 2mg/m³. |
| IARC/NTP CARCINOGEN: | Not listed |
| MUTAGENIC: | Not listed |
| TERATOGENIC : | Not listed |
| REPRODUCTIVE TOXICITY: | Not listed |
| MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: | Normally none. |
| PRIMARY ROUTE(S) OF EXPOSURE: | Body contact. |
| TARGET ORGANS: | All human tissue damaged on contact. |
| EFFECTS OF EXPOSURE: | This is a strong alkali which is destructive to all human tissue. See additional information. |
| INHALATION: | Can injure the entire respiratory tract. |
| SKIN: | Can cause severe burns. Corrosive to human tissue. |
| EYES: | Severe to permanent injury on contact. |
| INGESTION: | Severe burns, extreme pain, permanent damage. |
| EMERGENCY FIRST AID: | |
| INHALATION: | Remove to fresh air. Contact physician. Administer oxygen by trained personnel. |
| SKIN: | Remove contaminated clothing. Flush with water continuously until slipperiness is gone. |
| EYES: | Speed is essential. Flush with water (15 minutes) including under the eyelids. Get medical help immediately. |
| INGESTION: | Do not induce vomiting. Drink 2-3 glasses of milk (water) then citrus juice - get medical help. |
| ADDITIONAL INFORMATION: | Issue an MSDS to the medical authorities. |

SECTION VI**REACTIVITY DATA**

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| STABILITY: | Stable under normal conditions. |
| CONDITIONS TO AVOID: | This material generates considerable amounts of heat when dissolved in water. Do not allow contact with acids, reactive metals such as aluminum, zinc and tin, water and heat. |
| INCOMPATIBILITY: | Organic chemicals, nitrocarbons, halocarbons, and metals or alloys mentioned above. |
| (MATERIALS TO AVOID): | |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Flammable hydrogen gas may be generated when KOH and certain metals react. Toxic Potassium Oxide fumes are emitted when heated to decomposition. |
| POLYMERIZATION: | Will not polymerize. |
| CONDITIONS TO AVOID: | Exposure to air can form potassium carbonate when wet . |
| ADDITIONAL INFORMATION: | Trichlorethylene will react to form Dichloroacetylene which is spontaneously flammable. |

SECTION VII**ENVIRONMENTAL PROTECTION PROCEDURES**

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| SPILL RESPONSE: | Shovel up spills and place in suitable containers for recovery or disposal. Delay in clean up will allow absorption of atmospheric moisture and increase problems associated with clean up. Avoid dusting or body contact. Recover all material when in its dry state. Use weak acid to neutralize remaining spillage and flush with water. Confine the spill site, tools and clothing to a small area. |
| WASTE DISPOSAL METHODS: | Preplanning is essential - follow approved disposal procedure or contact your supplier. Follow federal, state and local regulations to meet legal and technical requirements. Do not dispose of the waste to sewers or non-chemical solid waste sites. Dilute with water, neutralize to a salt solution before disposal to regular outfall. |

PROTECTIVE EQUIPMENT:

Safety eyewash/shower station should be located in the handling area.

SECTION VIII

SPECIAL PROTECTION INFORMATION

EYE PROTECTION:

Splash goggles and/or face shield.

RESPIRATORY PROTECTION:

An N95 or N100 NIOSH approved particle respirator or dust mask should be worn if dust is present.

SKIN PROTECTION:

Impervious covering to avoid body contact.

OTHER PROTECTION:

Rubber boots. Rubbers over leather shoes is not recommended. Rubber apron, rainwear or disposal tyvek suit with hard hat should be worn.

VENTILATION RECOMMENDED:

Provide adequate ventilation to meet PEL and TLV requirements.

GLOVE TYPE RECOMMENDED:

Rubber, neoprene, latex, or nitrile.

ADDITIONAL INFORMATION:

Safety eyewash/shower stations must be available in the work area.

SECTION IX

SPECIAL PRECAUTIONS

HYGIENIC PRACTICES IN

Avoid dusting and body contact. Wear hardhat, goggles and/or face shield and other suitable protective clothing.

HANDLING/STORING:

PRECAUTIONS TO BE TAKEN FOR

HANDLING/STORING:

Store in well sealed containers. Avoid handling procedures that lead to dusting, leak or spills. Keep storage area dry and separate from acids. Do not store near halogenated hydrocarbons or reactive metals.

PRECAUTIONS FOR

REPAIR/ MAINTENANCE

OF CONTAMINATED EQUIPMENT:

Wash thoroughly with water.

OTHER PRECAUTIONS:

Drains should have retention basins to allow for neutralization of spills or waste prior to disposal.

ADDITIONAL INFORMATION:

Do not permit employees to handle Caustic Potash without advanced training and proper protective equipment.

SECTION X

TRANSPORTATION

USUAL SHIPPING CONTAINERS:

Drums, multilayer bags.

USUAL SHELF LIFE:

Life of container.

STORAGE/TRANSPORT TEMPERATURES:

Ambient.

SUITABLE STORAGE

MATERIALS/COATINGS:

Steel, plastic, PE (when dry).

UNSUITABLE:

Aluminum or galvanized containers.

OTHER INFORMATION:

Keep containers sealed to avoid absorption of moisture.

REVIEWED: **04/09**

(No changes made)

SUPERSEDES: **03/06**

(No changes made)

05/03

(Added WHMIS percentage)

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