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POTASSIUM HYDROXIDE

MATERIAL SAFETY DATA SHEET

Part Number/Trade Name: **Potassium Hydroxide White Flakes**
This MSDS is valid for both standard and premium grades.
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Material Identification

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CHEMICAL NAME:	Potassium Hydroxide, Solid
TRADE NAME:	Potassium Hydroxide White Flakes
SYNONYMS:	Caustic Potash, Potassium Hydroxide
CHEMICAL FORMULA:	KOH
C.A.S. NO.:	1310-58-3
WHMIS:	1%
CERCLA:	Yes
CHEMICAL FAMILY:	Alkali
LABELING:	Corrosive
IDENTIFICATION NO.:	UN 1813

SHIPPING NAME:	Potassium Hydroxide White Flakes
HAZARD CLASS:	8

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Physical/Chemical Characteristics

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VAPOR PRESSURE (mm Hg):	At 1317°F = 1 mm
VAPOR DENSITY (AIR = 1):	N/A
APPEARANCE AND ODOR:	White hygroscopic flake. No odor.
SOLUBILITY IN WATER:	COMPLETE
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_2O=1):	2.044
BOILING POINT:	2415° F
MELTING POINT:	681F
MOLECULAR WEIGHT:	56.1
FREEZE/SOLIDIFICATION TEMPERATURE:	715°F
pH:	13.5

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Ingredient and Hazards

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PRINCIPAL COMPONENT:	KOH
PERCENT:	90-95%. 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/m_3 OSHA PEL = None.

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Fire and Explosion Hazard Data

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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.

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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
(MATERIALS TO AVOID):	Above.
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 .
HAZARDOUS POLY OCCUR:	No.
ADDITIONAL INFORMATION:	Trichlorethylene will react to form Dichloracetylene which is spontaneously flammable.

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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.
HEALTH HAZARDOUS ACUTE	
ANA CHRONIC:	Acute severe irritation/burns of eyes, akin.
EFFECTS OF EXPOSURE:	This is a strong alkali which is destructive to all human tissue.
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.

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Precautions for Safe Handling and Use

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HYGIENIC PRACTICES IN HANDLING/STORING:	Avoid dusting and body contact. Wear hardhat, goggles and/or face shield and other suitable protective clothing.
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.
WASTE DISPOSAL METHOD:	Dispose of collected material in accordance with local state and federal regulations.

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

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Control Measures

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RESPIRATORY PROTECTION:	Use UIOSH/MSHA approved SCBA or respirator for vapors/mist if above TLV/PEL.
VENTILATION:	Local exhaust/general to maintain PEL/TLV.
PROTECTIVE GLOVES:	Impervious.
EYE PROTECTION:	Chemical goggles/face shield.
OTHER PROTECTIVE EQUIPMENT:	Eye-wash, safety shower, full skin and eye protection.
WORK HYGIENIC PRACTICES:	Avoid contact with eyes and skin, do not breathe vapors/mist wash thoroughly after each use.

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Transportation Data

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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.

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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.