SAFETY DATA SHEET

Caustic Potash 90% Flake

SECTION 1: IDENTIFICATION

Product identifier used on a label:	**Caustic Potash 90% Flake**
Product code:	1431B
Recommended use of the chemical and restrictions on use:	Water treatment, other manufacturing applications.
Chemical family:	Inorganic alkalis.
Name, address and phone # of supplier:	Aqua Bond Inc. PO Box 63635, Scarborough RPO Woodside Square, Toronto, ON, M1V 5K2 (416) 754-7211
24 Hr. Emergency phone #	**CANUTEC (613) 996-6666**

SECTION 2: HAZARDS IDENTIFICATION

Classification of the chemical: This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:
SKIN CORROSION- Category 1
EYE DAMAGE-Category 1
SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE-Category 1 (respiratory)
HARMFUL TO AQUATIC LIFE- Category 1

Label elements:



Signal word: Danger

Hazard statements:
H290 May be corrosive to metals.
H318 Causes serious eye damage.
H301 Toxic if swallowed.
H314 Cause severe skin burns and eye damage.
H402 Harmful to aquatic life.

Precautionary statements:
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash... thoroughly after handling.
P273 Avoid release to the environment.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 If swallowed: immediately call a poison center or doctor/physician.
P301+P330+P331 If swallowed: rinse mouth. Do not induce vomiting.
P303+P361+P353 If on skin (or hair): remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 If inhaled: remove victim to fresh air and keep at rest in a position

comfortable for breathing.
P310 Immediately call a poison center or doctor/physician.
P390 Absorb spillage to prevent material damage.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P406 Store in corrosive resistant/... container with a resistant inner liner.
P501 Dispose of contents/container according to all applicable regulations.

Other hazards: No additional hazards available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/ mixture: Pure substance.

Ingredient name	**CAS Number**	**Concentration (%)**
Potassium hydroxide	1310-58-3	90-95

SECTION 4: FIRST-AID MEASURES

Description of first aid measures:

Ingestion: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately call a POISON CENTER or doctor/physician. Call Poison Information Centre. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting.

Inhalation: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that mists are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact: Wash immediately with lots of water (15 minutes). Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

Eye contact: Get medical attention immediately. Call a poison center or physician. Check for and remove any contact lenses. Immediately flush eyes with running water for at least 30 minutes, keeping eyelids open. Chemical burns must be treated promptly by a physician.

Most important symptoms and effects, both acute and delayed:

Causes severe skin burns and eye damage. If inhaled high concentrations the symptoms include dry and sore throat, coughing, irritation of the respiratory tract and nasal mucous membranes. Delayed

symptoms include laryngeal spasm/oedema, lung oedema, and respiratory difficulties. Skin contact causes burns with slow healing wounds. Eye contact causes permanent eye damage. Ingestion of the substance causes vomiting, diarrhea, burns to the gastrointestinal tract, and shock. Chronic exposure causes dry skin, rash, irritation and inflammation of respiratory tract.

Indication of any immediate medical attention and special treatment needed:

No specific treatment. Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:	
Suitable	Use foam, dry powder, carbon dioxide, water spray, sand.
Unsuitable	None known.
Special hazards arising from the substance:	This product is non-combustible. On heating: release of corrosive gases/vapours. Absorbs the atmospheric CO_2. Violent exothermic reaction with strong acids. Reacts with certain metals by releasing highly flammable gases/vapours (hydrogen).
Hazardous thermal decomposition products:	Carbon dioxide and carbon monoxide.
Special protective actions for fire-fighters:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Methods and materials for containment and cleaning up:	Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Take account of toxic/corrosive precipitation water. Take up liquid spill into absorbent material, e.g.: dry sand/earth or powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Small quantities of liquid spill: neutralize with acid solution. Wash away neutralized product with plentiful water. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to proper disposal company. Wash clothing and equipment after handling.

Special spill response procedures: In case of transportation accident, contact CANUTEC at (613) 996-6666.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Put on appropriate personal protective equipment. Avoid exposure -obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

Conditions for safe storage: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Suitable container material is polyethylene, polypropylene, glass, porcelain. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Incompatible materials: Strong bases, strong acids, metals such as aluminum or galvanized steel.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Exposure limits

Ingredient	**Exposure limits**
Potassium hydroxide	**ACGIH TLV** Ceiling 2 mg/m^3

Engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Emergency eye wash stations and safety showers should be available in the immediate vicinity of any potential exposure.

Individual protection measures: Eyes/face: Chemical splash goggles and face shield.
Skin: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical. Personal protective equipment for the body should be corrosion proof.
Respiratory: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid flakes.
Odor:	Odourless.
Odor threshold:	Not applicable.
pH:	14. (aqueous solution).
Melting point:	361°C
Freezing point:	Not aplicable.
Initial boiling point and boiling range:	1320°C
Flash point:	Not applicable.
Evaporation rate:	Not available.
Flammability:	Not flammable.
Upper and lower flammability limits:	Not applicable.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	2.044 g/cc
Solubility:	Very soluble.
Partition coefficient n-octanol/water:	Not available.
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not data available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Excessive heat, sparks and open flame. Reacts violently with water and organic materials with evolution of heat. Reacts with acids.
Chemical stability:	The product is stable.
Possibility of hazardous reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid:	Direct sunlight. Extreme temperatures.
Incompatible materials:	Strong acids, metals, strong oxidizing agents.
Hazardous decomposition products:	Flammable hydrogen gas may be generated when KOH and certain metals react.

SECTION 11: TOXICOLOGICAL INFORMATION

LC 50 of material, species & route:	Not available
LD 50 of material, species & route.	333 mg/kg. (oral-rat). 1350 mg/kg. Dermal, rabbit.
Route of entry:	
Inhalation	Mists and vapours may cause severe irritation to the respiratory tract.

Ingestion	Immediate effects may include: burns of the mouth, esophagus and stomach, with severe pain, bleeding, vomiting, diarrhea and collapse of blood pressure. Damage may appear days after exposure. Swallowing may be fatal.
Skin corrosion / Irritation	Possible skin corrosion, burns or ulcers.
Skin absorption	Not available.
Serious eye damage / eye irritation	Possible eye corrosion or ulceration (blindness may result).
Irritancy of material	See Section 2
Effects of acute exposure	Severe chemical burns to eyes and skin. Severity of burn is generally determined by the concentration of the solution and duration of exposure. Mists may produce severe irritation of respiratory tract (cough, shortness of breath, chocking).
Medical conditions aggravated by overexposure	May aggravate an existing dermatitis, asthma, and inflammatory or fibrotic pulmonary disease.
Synergistic materials	None.
Effects of chronic exposure	Target organs for acute and chronic overexposure (niosh 90-117): respiratory system, eyes, skin, teeth. Mists: possible irritation of the nose and throat with sneezing, sore throat or runny nose. Gross overexposure: possible irritation of nose, throat, and lungs with cough, difficulty breathing or shortness of breath. Pulmonary edema with cough, wheezing, and abnormal lungs sounds, possibly progressing to shortness of breath and bluish discoloration of the skin; symptoms may be delayed. Repeated or prolonged exposure to mists may cause corrosion of teeth. Contact: possible skin corrosion, burns or ulcers. Possible eye corrosion or ulceration.
Carcinogenicity	Not classified as a carcinogen.
Reproductive toxicity	Not available.
Sensitization:	Not available.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity : Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling

emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

	TDG
UN Number:	UN1813
UN proper shipping name:	POTASSIUM HYDROXIDE SOLID
Transport hazard class:	8
Packing group:	II
Special precautions for user:	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: REGULATORY INFORMATION

WHMIS classification:	D1B, E.
HPR compliance:	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

SECTION 16: OTHER INFORMATION

Revision date: October 4, 2022
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Disclaimer

While the information and recommendations set forth are believed to be accurate as of data hereof, Aqua Bond Inc., makes no warranty with respect thereto and disclaims all liability from reliance thereon.