SAFETY DATA SHEET

POTASSIUM HYDROXIDE FLAKES

1. IDENTIFICATION

Product identifier

Product Name POTASSIUM HYDROXIDE FLAKES

Relevant identified uses of the substance or mixture

Identified Uses Industrial applications

Supplier Details

Voyageur Soap and Candle Co.
Unit 102 - 19475 Fraser Hwy
Surrey, BC V3S 6K7
Telephone: 1-800-758-7773

Emergency telephone number

TRANSPORTATION EMERGENCY - 24HRS/DAY - 7DAYS/WEEK IN CANADA - CALL 1-800-567-7455

2. HAZARD IDENTIFICATION

Classification of the substance or mixture

CORROSIVE TO METALS - Category 1
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
Health Hazards Not Otherwise Classified - Category 1

GHS label elements

Hazard pictigrams

Signal Word Danger

Hazard statements

May be corrosive to metals. Harmful if swallowed. Causes severe digestive tract burns. Causes severe respiratory tract burns. Causes severe skin burns and eye damage.

Precautionary statements

Prevention

Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep only in original packaging. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response

Absorb spillage to prevent material damage. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call POISON CENTER or physician. IF SWALLOWED: Immediately call POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing.

	Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Immediately call a POISON CENTER or physician.
Storage	Store locked up. Store in a corrosion resistant container with a resistant inner liner.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	Keep container tightly closed. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Do not breathe dust.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture: Mixture

Ingredient Name	%(w/w)	CAS number
potassium hydroxide	90 - 95	1310-58-3

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST-AID MEASURES

Description of necessary first aid measures

Eye Contact	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
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 fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, 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. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	Causes serious eye damage.
Inhalation	Severely corrosive to the respiratory system.
Skin contact	Causes severe burns.
Ingestion	Severly corrosive to the digestive tract. Causes severe burns. May cause burns to mouth, throat and stomach. Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact	Adverse symptoms may include the following: pain, watering, redness.
Inhalation	Adverse symptoms may include the following: respiratory tract irritation, coughing.
Skin contact	Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.
Ingestion	Adverse symptoms may include the following: stomach pains.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatments
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable exringuishing media	None known.
Specific hazards arising from the chemical	No specific fire or explosion hazard.
Hazardous thermal decomposition products	Decomposition products may include the following materials: metal oxides/oxides.

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.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	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 dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on approriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevent authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small Spill	Move containers from spill area. Absorb spillage to prevent material damage. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large Spill	Move containers from spill area. Absorb spillage to prevent material damage. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Protective Measures	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Do not reuse container. Absorb spillage to prevent material damage.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

	Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in a corrosion resistant container with resistant inner liner. Store locked up. Keep container tightly closed and sealed until ready to use. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits

Ingredient Name	Exposure limits
potassium hydroxide	ACGIH TLV (United States, 3/2016). C: 2 mg/m³

Appropriate engineering controls	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible. the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to break through any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid. [Flakes.]
Color	White.
Odor	Odorless
Odor threshold	Not available
pH	13.5 [Conc. (% w/w): 0.6%]
Melting point	380°C (716°F)
Boiling point	1320°C (2408°F)
Flash point	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower and upper explosive (flammable) limits	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	2.04
Density	Not available
Solubility	Easily soluble in the following materials: cold water.
Dispersibility properties	Not available
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Volatility	Not available

10. STABILITY AND REACTIVITY

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
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	No specific data.
Incompatible materials	Oxidizing materials, reducing materials, organic materials, metals, acids, moisture.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Potassium hydroxide	LD50 Oral	Rat	273 mg/kg	-

Irritation/corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Potassium hydroxide	Eyes – moderate irritant	Rabbit	-	24 hours 1mg	-
Potassium hydroxide	Skin – Severe irritant	Guinea Pig	-	24 hours 50 mg	-
Potassium hydroxide	Skin – Severe irritant	Human	-	24 hours 50 mg	-
Potassium hydroxide	Skin – Severe irritant	Rabbit	-	24 hours 50 mg	-

Sensitization

Not available

Mutagenicity

Not available

Carcinogenicity

Not available

Reproductive toxicity

Not available

Teratogenicity

Not available

Specific target organ toxicity (single exposure)

Not available

Specific target organ toxicity (repeated exposure)

Not available

Aspiration Hazard

Not available

Information on the likely routes of exposure	Routes of entry anticipated: Oral, Inhalation.

Potential acute health effects

Eye contact	Causes serious eye damage.
Inhalation	Severely corrosive to the respiratory system.
Skin contact	Causes severe burns.
Ingestion	Severely corrosive to the digestive tract. Causes severe burns. May cause burns to mouth, throat and stomach. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	Adverse symptoms may include the following: pain, watering, redness.
Inhalation	Adverse symptoms may include the following: respiratory tract irritation, coughing.
Skin contact	Adverse symptoms may include the following: pain or irritation, redness, blistering may occur.
Ingestion	Adverse symptoms may include the following: stomach pains.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects	Not available
Potential delayed effects	Not available

Long term exposure

Potential immediate effects	Not available
Potential delayed effects	Not available

Potential chronic health effects

General	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	301.6mg/kg

12. ECOLOGICAL INFORMATION

Toxicity

Product/ingredient name	Result	Species	Exposure
Potassium hydroxide	Acute LC50 80 ppm Fresh Water	Fish – Gambusia affinis - Adult	96 hours

Persistence and degradability

Not available

Bioaccumulative potential

Not available

Mobility in soil

Soil/water partition coefficient (Koc)	Not available
Other adverse effects	No known significant effects or critical hazards.

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 non-recyclable 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.

14. TRANSPORT INFORMATION

TDG Classification

UN Number	1813
UN Proper shipping name	POTASSIUM HYDROXIDE, SOLID
Transport hazard class(es)	8
Packing group	II
Additional information	Not available

15. REGULATORY INFORMATION

Canada inventory All components are listed or exempted.

16. OTHER INFORMATION

History

Date of issue/Date of revision	26 May 2017
Prepared by	Regulatory Affairs
Key to abbreviations	ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals LowPow = logarithm of the octanol/water partition coefficient UN = United Nations HPR = Hazardous Products Regulations

Procedure used to derive the classification

Classification	Justification
CORROSIVE TO METALS – Category 1	Expert judgement
ACUTE TOXICITY (oral) – Category 4	Calculation method
SKIN CORROSION – Category 1	On basis of test data
SERIOUS EYE DAMAGE – Category 1	On basis of test data
Health Hazards Not Otherwise Classified – Category 1	Calculation method

Disclaimer
NOTICE TO READER:

Refer to all relevent technical information specific to this product, prior to use. The information contained in this document and on our website (www.voyageursoapandcandle.com) is obtained from current and reliable sources. Voyageur Soap and Candle Co. provides the information herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgement in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property right of third parties. As the ordinary or otherwise use(s) of this product is outside the control of Voyageur Soap and Candle Co., no representation or warranty, expressed or implied is made as to the effect(s) of such use(s) (Including, but not limited to, injury or bodily harm) or the results obtained. Voyageur Soap and Candle Co. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. Voyageur Soap and Candle Co. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the customer hereby agrees that jurisdiction is limited to the province of British Columbia.

Due to its dangerous goods classification, Voyageur Soap and Candle Co. will only ship Sodium Hydroxide within Canada and by Canpar Ground Courier. There is a $35.00 Dangerous Goods Charge applied to all orders for shipping of the 50lb bag size. Smaller sizes are exempt as they are considered limited quantities by the Transportation of Dangerous Goods Regulations.

End of Safety Data Sheet