



MATERIAL SAFETY DATA SHEET

Section 1: Product and Company Identification

Product Name: KBS AquaKlean
Product Use: General Use Cleaner and Degreaser
Synonym: AquaKlean AK
Manufacturer: Advanced Protective Technologies
2502 Beech St
Suite 100
Valparaiso IN 46383
Phone Number: 1 (219) 476-7170

Section 2: Hazards Identification

NFPA (USA)	WHMIS Classification (Canada)	Transport Symbol	Personal Protective Equipment
	Consumer Product Not Regulated under WHMIS Classification for workplace exposures:  D2B	Not Regulated	

Emergency Overview:

Appearance, Color and Odor: Clear water like liquid with slight odor.

Irritating or corrosive to eyes and skin. Harmful by inhalation, in contact with skin and if swallowed.

USA: While this material is a Consumer Commodity, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

This product is a hazardous material as defined by 29 CFR1910.1200, OSHA Hazard Communication Evaluation.

Canada: As packaged this product is intended for consumer use, subject to the labeling requirements of the CCCR. While this product is not regulated under WHMIS, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential Health Effects: **ACUTE (short term): see Section 8 for exposure controls**

Relevant Route(s) of Exposure: Inhalation, Ingestion, Skin contact, Eye contact

Inhalation: Vapors from this product are harmful by inhalation. Mists from this product are irritating to the mucous membranes of the respiratory system. Symptoms of overexposure may include coughing, nasal discharge, nasal discomfort, difficulty breathing, headache, nausea, dizziness, vomiting and drowsiness.

Ingestion: Harmful if swallowed. Ingestion may cause irritation to the mouth and digestive system. May cause vomiting. Harmful if aspirated into the lungs during swallowing and vomiting. Aspiration into the lungs may cause pulmonary edema, a life-threatening condition; symptoms of pulmonary edema may be delayed several hours.

Skin: Prolonged skin contact may cause irritation. Ethylene glycol monobutyl ether may be absorbed through the skin; this substance is harmful when absorbed through the skin.

Eye: Direct contact with the eyes is expected to cause moderate to severe irritation.

CHRONIC (long term): see Section 11 for additional toxicological data

Repeated or prolonged skin contact may cause dermatitis, with redness, blisters, cracking and swelling of the skin.

The substance Ethylene glycol monobutyl ether is listed by ACGIH in carcinogenicity category A3. This category contains substances which are carcinogenic in experimental animals at relatively high doses, by routes of administration, at sites, of histologic types, or by mechanisms that may not be relevant to worker exposure. Available evidence does not suggest that this substance is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.

Long-term occupational exposure (inhalation and dermal) to Ethylene glycol monobutyl ether, may be associated with increased oxalic acid loads, which can alter kidney function and may result in kidney stones.

Medical Conditions Aggravated by Exposure: Skin contact may aggravate an existing dermatitis.

Interactions With Other Chemicals: Not available.

Potential Environmental Effects: Not available. Do not allow the product to be released into the environment.

Section 3: Composition / Information on Ingredients

Hazardous Ingredients:

Chemical Name	CAS No.	Wt. %
Potassium hydroxide	1310-58-3	1 - 2
Ethylene glycol monobutyl ether	111-76-2	1 - 2
4-Nonylphenol, branched, ethoxylated	127087-87-0	1 - 2

Note: See Section 8 of this MSDS for exposure limit data for these ingredients.

Section 4: First Aid Measures

Inhalation:	If symptoms develop, remove source of contamination or move victim to fresh air. If breathing has stopped, properly trained personnel should begin artificial respiration or cardiopulmonary resuscitation (CPR) immediately. Obtain medical advice immediately.
Eye Contact:	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 15-20 minutes while holding the eyelids open. If a contact lens is present, do not delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention
Skin Contact:	Remove contaminated clothing, shoes, and leather goods (e.g. watchbands and belts). Immediately flush with lukewarm, gently flowing water for 5 minutes. If irritation persists, repeat flushing. Obtain medical advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Ingestion:	Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. Do not induce vomiting. Have victim drink 60 to 240 mL (2 to 8 oz) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Quickly transport victim to an emergency care facility.
Notes to Physician:	Not available

Section 5: Fire Fighting Measures

Flammable Properties:	Aqueous solution; does not burn
Suitable extinguishing Media:	Use extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing Media:	Not available
Explosion Data:	
Sensitivity to Mechanical Impact:	Not sensitive; aqueous solution
Sensitivity to Static Discharge:	Not sensitive; aqueous solution
Specific Hazards arising from the Chemical:	Not available
Protective Equipment and precautions for firefighters:	As for any fire, evacuate the area and fight the fire from a safe distance. Wear a pressure-demand, self-contained breathing apparatus and full protective gear. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.
NFPA	
Health:	1
Flammability:	0
Instability:	0

Section 6: Accidental Release Measures

Personal Precautions:	Wear all skin, eye and respiratory personal protective equipment as indicated in Section 8. Take all appropriate measures to prevent splashing product onto the face.
Environmental Precautions:	Prevent material from contaminating soil and from entering sewers or waterways.
Methods for Containment:	Isolate the spill area. Shut off the leak if it is safe to do so. Contain the liquid immediately using a suitable inert absorbent (sand, clay, vermiculite).
Methods for Clean-up:	Scoop up contaminated absorbents and place into suitable disposal containers. Collect all spilled material, contaminated absorbents and contaminated water for proper treatment or disposal. Contaminated absorbents pose the same hazards as the spilled product. Flush the contaminated area with water.
Other Information:	Not available

Section 7: Handling and Storage

Handling:	Prevent contact with eyes, skin and clothing. Wear protective goggles and gloves. Avoid breathing mists. Wash hands thoroughly after handling this product. Observe the recommended exposure limits (Section 8). See Section 8 for Personal Protective Clothing and Equipment.
Storage:	KEEP LOCKED UP AND OUT OF THE REACH OF CHILDREN. Store in a cool, dry, well ventilated area. Keep from freezing. Keep container closed when not in use. Store product in its original container.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

<u>Ingredient</u>	<u>ACGIH TLV (8-hr. TWA)</u>	<u>U.S. OSHA PEL (8-hr. TWA)</u>	<u>Ontario (Canada) TWAEV</u>
Potassium hydroxide	2 mg/m ³ Ceiling	2 mg/m ³ Ceiling	2 mg/m ³ Ceiling
Ethylene glycol monobutyl ether	20 ppm	25 ppm, skin	20 ppm
4-Nonylphenol, branched, ethoxylated	Not established	Not established	Not established

Exposure Controls

Engineering Controls:	General ventilation is adequate. In workplaces where a fine mist is created and in confined spaces, provide local exhaust ventilation.
Personal Protection:	
Eye/Face Protection:	Wear chemical splash goggles.
Skin Protection:	Wear impermeable protective gloves and clean body-covering to prevent contact with the skin. Impermeable apron and arm covers should be worn when needed to prevent skin contact. Butyl rubber, neoprene, nitrile, or Viton™ protective clothing materials are recommended.
Respiratory Protection:	Not required for normal use. Wear a NIOSH approved respirator when occupational exposure guidelines are exceeded. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or Canadian Standards Association (CSA) Standard Z94.4-93 must be followed whenever workplace conditions warrant a respirator's use.
Other Protective Equipment:	In industrial settings, have an eyewash fountain and safety shower in the immediate work area.
General Hygiene Measures:	Remove contaminated clothing promptly. Launder contaminated clothing before re-wearing or discard. Do not eat, drink or smoke in work areas. Wash hands thoroughly after handling this material. Maintain good housekeeping.

Section 9: Physical and Chemical Properties

Physical State:	Liquid	Flash Point & method:	Not applicable
Appearance, Color and Odor:	Clear	Autoignition Temperature:	Not applicable
Odor Threshold:	Not available	Flammability Limits in Air:	Not applicable
pH:	7	Vapor Pressure:	Not available
Specific Gravity: (water = 1)	1.03	Vapor Density: (Air = 1)	Not available
Partition coefficient: (n-octanol/water)	Not available	Evaporation Rate: (n-Butyl Acetate = 1)	Not available
Solubility:	Soluble in water	Boiling Point/Range:	100°C (212°F)
Viscosity:	Not available	Freezing Point:	-5°C (23°F)
Decomposition Temperature:	Not available		

Section 10: Stability and Reactivity

Chemical Stability:	Stable under normal conditions
Conditions to Avoid:	Not available
Incompatible Materials:	Strong acids.
Hazardous Decomposition Products:	Not available
Possibility of Hazardous Reactions:	Not available

Section 11: Toxicological Information

Acute Toxicity Data

Ingredient	LD₅₀ Oral (mg/kg)	LD₅₀ Dermal (mg/kg)	LC₅₀ Inhalation (4 hrs.)
Potassium hydroxide	273 (rat)	Not available	Not available
Ethylene glycol monobutyl ether	530 (rat)	207 (guinea pig)	450 ppm (rat)
4-Nonylphenol, branched, ethoxylated	Not available	Not available	Not available

Chronic Toxicity Data

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Ingredient	ACGIH	IARC	NTP	OSHA
Potassium hydroxide	Not listed	Not listed	Not listed	Not listed
Ethylene glycol monobutyl ether	A3	Group 3	Not listed	Not listed
4-Nonylphenol, branched, ethoxylated	Not listed	Not listed	Not listed	Not listed

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3: Confirmed animal carcinogen with unknown relevance to humans.
IARC: (International Agency for Research on Cancer)
Group 3: Not classifiable as to its carcinogenicity in humans.
NTP: (National Toxicity Program)
OSHA: (US Occupational Safety and Health Administration)

Irritation:	Irritating to the eyes and skin.
Corrosivity:	Not applicable
Sensitization:	Not applicable
Neurological Effects:	Not available
Genetic Effects:	Not available
Reproductive Effects:	Not available
Developmental Effects:	Developmental effects have been observed in animals following inhalation or ingestion exposure to Ethylene glycol monobutyl ether at doses that have produced toxicity in the mothers.
Other Adverse Effects:	Not available
Target Organ Effects:	Eyes, skin, kidney.

Section 12: Ecological Information

Ecotoxicity: Not available
Persistence/Degradability: Not available
Bioaccumulation/Accumulation: Not available
Mobility: Not available
Other adverse effects: Not available. Do not allow the material to be released into the environment.

Section 13: Disposal Considerations

Waste Disposal Method: Do NOT dump into any sewers, on the ground or into any body of water. Store material for disposal as indicated in Section 7 Handling and Storage.
US EPA Waste Number: Dispose of in accordance with local, state and federal laws and regulations. RCRA Waste Codes: Not listed
Canada: Dispose of in accordance with local, provincial and federal laws and regulations.

Section 14: Transport Information:

<u>U.S. Hazardous Materials Regulation (DOT 49CFR):</u>	Not regulated
<u>Canadian Transportation of Dangerous Goods (TDG):</u>	Not regulated
<u>ADR/RID:</u>	Not regulated
<u>IMDG:</u>	Not regulated
<u>Marine Pollutants:</u>	Not applicable
<u>ICAO/IATA:</u>	Not regulated

Section 15: Regulatory Information

<u>USA</u>	<p>TSCA Status: All ingredients in the product are listed on the TSCA inventory.</p> <p>SARA Title III Sec. 302/304: None Sec. 311/312: Acute Sec. 313: None CERCLA RQ: Potassium hydroxide, CAS# 1310-58-3: final RQ = 1000 pounds (454 kg)</p> <p>California Prop 65: This product is not known to contain chemicals known to State of California to cause cancer or birth defects or other reproductive harm.</p>
<u>Canada</u>	<p>This product has been classified in accordance with the hazard criteria of the <i>Controlled Products Regulations</i> and the MSDS contains all the information required by the <i>Controlled Products Regulations</i>.</p> <p>WHMIS Classification: D2B – Material causing other toxic effects – due to skin and eye irritation. (for workplace exposures)</p> <p>NSNR Status: All ingredients in the product are listed on Canada's Domestic Substances List (DSL). (New Substance Notification Regulations)</p> <p>NPRI Substances: There are no NPRI reportable substances in this product. (National Pollutant Release Inventory)</p>

Section 16: Other Information

Prepared by: LEHDER Environmental Services Limited
704 Mara Street, Suite 210
Pt. Edward, ON
N7V 1X4
www.lehder.com

Phone: 519-336-4101

Preparation date: July 27, 2006

Revision Date: Not applicable

Revision Summary: Not applicable

Disclaimer: While LEHDER Environmental Services Limited believes that the data set forth herein is accurate, as of the date hereof, LEHDER makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data is offered solely for your consideration, investigation and verification.