Product: Potassium Chlorate with Yellow Protopet 2A Petrolatum USP Simulant, P/N: XM-115-T

Date of Preparation: 4/8/02

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Simulant for Potassium Chlorate, with Petrolatum USP
Chemical Formula: $KCLO_3$ and a mixture of hydrocarbons refined from petroleum
CAS Number:
Other Designations: Yellow Protopet 2A Petrolatum Simulant with 8% Potassium Chlorate or Potash or Potassuim Salt.
General Use: To have the vapor signature of a pyrotechnic , but will not explode or rapid burn
Manufactured for: XM division of Van Aken International, 9157 Rochester Court, Rancho Cucamonga, CA 91730, TEL (909) 980-2001, FAX (909) 980-2333 (hours 8:00am till 4:30pm of operation), emergency TEL (909) 260-2561.

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% wt
Petrolatum USP	8009-03-6	>92%
POTASSIUM CHLORATE	3811-04-9	< 8%

Trace Impurities: May contain up to 10 ppm Butylated Hydroxytoluene

Ingredient	OSHA PEL TWA	OSHA PEL STEL	ACGIH TLV TWA	ACGIH TLV STEL	NIOSH REL TWA	NIOSH REL STEL	NIOSH IDLH
Petrolatum USP	5 mg/m^3	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.
Potassium Chlorate	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.	none estab.

Toxicity Data: Exposure Limits 0.1 mg/m^3 (resp), 1.5 mg/m^3 (skin), 500 mg/24H MLD(skn-rbt), 500 mg/ 1H MLD (eye-rbt)

Section 3 - Physical and Chemical Properties

Physical State: semi-solid
Appearance and Odor: opaque, white to amber and no odor
Odor Threshold: None
Specific Gravity (H_2O=1, at 4 °C): 0.95
pH: not applicable
Water Solubility: nil
Other Solubilities:
Melting Point:38 to 60^0 C (368^{o}c for Potassium Chlorate)
Evaporation Rate: 0 at 25^{0}C
Vapor Pressure (mm Hg at 20^{0}c): less than .0005

Section 4 - Fire-Fighting Measures

Flash Point: greater than 204^{0}C
Burning Rate:
Autoignition Temperature: 211^{0}C
LEL: N/A
UEL: N/A
Flammability Classification: 94 V-1
Extinguishing Media: Drychemical or Waterfog or CO_2 or Foam or Sand/earth. Closed containers exposed to fire may be cooled with water
Unusual Fire or Explosion Hazards: none
Hazardous Combustion Products: CO, Co_2, NO, HCL, Carbon monoxide and carbon dioxide from burning
Fire-Fighting Instructions: Do not release runoff from fire control methods to sewers or waterways. Water spray is an unsuitable extinguishing agent.
Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode.

Section 5 - Stability and Reactivity

Stability: Product is stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.
Chemical Incompatibilities: Strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
Conditions to Avoid: none known
Hazardous Decomposition Products: none

Section 6 - Health Hazard Information

Potential Health Effects

Primary Entry Routes: Under normal conditions no absorption through the skin. By inhalation or other route of entry is anticipated. If used in applications where a mist may be generated, oberve a TWA/PEL of 5 mg/m^3 for minerial oil mist (OSHA and ACGIH).
Target Organs: eyes, skin, lungs, nervous system, bone marrow
Acute Effects: no data available
Inhalation: Respiratory tract irritation, convulsions, and unconsciousness
Eye: irritation
Skin: Irritation, redness, and pain
Ingestion: Causes irritation to the gastrointestinal tract. Potassium Chlorate may cause abdomimal pain, hemolysis, methemoglobinemia, cyanosis, anuria, coma, convulsions. May cause liver and kidney damage. Death may occur from renal failure, generally in 4 days. Estimated lethal dose of Potassium Chlorate is from 15 to 30 grams.
Carcinogenicity: IARC, NTP, and OSHA do not list product or chemical as a carcinogen.
Medical Conditions Aggravated by Long-Term Exposure: Petrolatum USP grades are fully refined materials meeting the requirements of the United States Pharmacopeia XXII and the requirements of the Food and Drug Administration as per Title 21 CFR parts 172.880 and 178.3700.
Chronic Effects: No data available for Protopet 2A. Repeated ingestion of Chlorates loss of appetite and weigh loss.

Emergency and First Aid Procedures

Inhalation: not applicable
Eye Contact: For molten product only, immediately flush with large quantities of water for at least 15 minutes and call a physician.
Skin Contact: If burned by contact with hot material, cool burned skin area as quickly as possible by immersing in cold water, or applying cold water. Call a physician
Ingestion: Contact a physician
After first aid, get appropriate in-plant, paramedic, or community medical support.
Note to Physicians:
Special Precautions/Procedures:

Section 7 - Spill, Leak, and Disposal Procedures

Spill /Leak Procedures: Shut off leak and dike up large spills. After cooling and solidification, scrape and/or shovel up material. Finally, clean area with an oil absorbent material. Dispose of material as a non-explosive waste.
Small Spills: Same
Large Spills: Same
Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.
Cleanup: Do not use acetone, use water as necessary.
Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).
Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
Disposal Regulatory Requirements: As an inert material.
Container Cleaning and Disposal: Use water.
Ecological Information: None

EPA Regulations:
RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)
RCRA Hazardous Waste Classification (40 CFR 261.): Not classified
CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b)(4); CWA, Sec. 307(a), CAA, Sec. 112
CERCLA Reportable Quantity: none known
SARA 311/312 Codes: none known
SARA Toxic Chemical (40 CFR 372.65): Not listed
SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.
OSHA Regulations:
Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed
OSHA Specifically Regulated Substance (29CFR 1910.109)
State Regulations: Same

Section 8 - Exposure Controls / Personal Protection

Engineering Controls: Handle as an inert material.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec.Ê2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls: Maintain in approved storage area.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

Protective Clothing/Equipment: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses. Handle behind a barrier.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Special Precautions and Comments

Handling Precautions: If product will normally be maintained in a heated, liquid form, exercise suitable precautions to aviod thermal burns. Avoid breathing mist or vapors.

Storage Requirements: Store away from heat and open flame. Maximum storage temperature 93^0C

DOT Transportation Data (49 CFR 172.101):

Shipping Name: Potassium Chlorate Simulant**,** not an explosive
Shipping Symbols: none
Hazard Class: not applicable
ID No.:
Packing Group:
Label:
Special Provisions: Petrolatum

Packaging Authorizations
a) Exceptions: none
b) Non-bulk Packaging: none
c) Bulk Packaging: none

Quantity Limitations
a) Passenger, Aircraft, or Railcar: none
b) Cargo Aircraft Only: none

Vessel Stowage Requirements
a) Vessel Stowage: none
b) Other:

Prepared By: B. MacDonald
Revision Notes: RVA 3/28/08

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