SAFETY DATA SHEET

1-CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Date Prepared: 6-19-2014
Material Identification: Pool Style Non-Chlorinating Shock Oxidizer
Trade names and Synonyms: Potassium monopersulfate, Potassium peroxymonosulfate
Company Identification: Qualco Inc. / 225 Passaic Street / Passaic, NJ 07055
Phone Number: 973-473-1222 Emergency: CHEMTREC – 1-800-424-9300

2-HAZARDS IDENTIFICATION

Potential Health Effects: Oxone Monopersulfate blended with 0-20% Sodium Carbonate is a skin and eye corrosive, and a nose throat and lung irritant. May cause allergic skin reactions in sensitive individuals. Ingestion may cause inflammation and damage to the lining of the stomach, resulting in bleeding.

HUMAN HEALTH EFFECTS:
Skin contact with aqueous solutions or the dry powder upon contact with moisture or perspiration may cause skin burns or ulceration; temporary body hair loss may occur in contacted areas. Skin contact with this product may cause allergic skin reactions in sensitive individuals. Human patch tests with the product diluted in water at concentrations up to 150 ppm did not cause allergic skin reactions.
Eye contact may cause corneal opacity (clouding of the eye) and eye corrosion or ulceration. Severe eye damage may result (See First Aid Measures)
Inhalation may cause nose bleeds and irritation of the upper respiratory passages and lungs with coughing, discomfort, difficult breathing and shortness of breath. Ingestion may cause gastritis possibly progressing to necrosis or hemorrhage.
Individuals with pre-existing diseases of the skin or gastrointestinal tract may have increased susceptibility to the toxicity of excessive exposures.
Carcinogenicity Information
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

3-COMPOSITION/INFORMATION ON INGREDIENTS

Components: Oxone Monopersulfate Compound (CAS #70693-62-8) - 80%-100%
Sodium Carbonate (CAS #497-19-8) - 0% - 20%

4-FIRST AID MEASURES

FIRST AID:
Ihalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.
Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Ingestion: If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

5-FIRE FIGHTING MEASURES

Flammable Properties:
Will not burn
Fire and Explosion Hazards:
Improper storage of large masses of potassium monopersulfate or blended potassium monopersulfate can trap heat and lead to ignition of combustibles (See section on Handling and Storage). Grinding or intensive mixing may cause decomposition with liberation of heat and oxygen; ignition of oxidizable material if present may occur.
Extinguishing Media:
Water. Do not use carbon dioxide or other gas-filled fire extinguishers; they will have no effect on decomposing persulfates.
Fire Fighting Instructions:
Will release oxygen when heated, intensifying a fire. Acidic mist may be present; self contained breathing apparatus should be used.

6-ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)
NOTE: Review FIRE FIGHTING MEASURES AND HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONNEL PROTECTIVE EQUIPMENT during clean-up
Accidental Release Measures
Sweep up. Flush area with low pressure water. (See Disposal Consideration).

7-HANDLING AND STORAGE

Handling (Personnel)
Do not inhale. Do not get in eyes, on skin or on clothing. Wash thoroughly after handling. Wash clothing after use.
Storage
Store in a cool, dry, well ventilated area away from heat sources such as light fixtures or space heaters.
Pallets may be stacked. Leave open space on all sides of each pallet to provide ventilation. See local fire codes for allowable limits. Do not store with combustible materials or with incompatibles (See incompatibility with other materials*)

8-EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
Use sufficient ventilation to keep employee exposure below recommended limits.
Personal Protective Equipment
For Exposure to Dry Material
Eye/Face Protection:
Wear safety glasses or coverall chemical splash goggles
Respirators:
A NIOSH approved air-purifying respirator with an appropriate particulate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Protective Clothing:
Where there is potential for skin contact, have available and wear as appropriate impervious gloves, apron, pants and jacket.
For Exposure To Solutions:
Eye/Face Protection: Wear coverall chemical splash goggles. Additionally wear a face shield where the possibility exists for face contact due to splashing or spraying of material.
Respirators: A NIOSH approved air-purifying respirator with an appropriate particulate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.
Protective Clothing:
Where there is potential for skin contact, wear impervious clothing such as gloves, apron, boots or whole bodysuit.
Exposure Guidelines
Exposure Limits:
PEL (OSHA) – Particulates (Not Otherwise Regulated)
15 mg/m3, 8 hr. TWA total dust,
5 mg/m3, 8 hr. TWA, respirable dust
Other Applicable Exposure Limits
Potassium Monopersulfate Compound
PEL (OSHA): None Established
TLV (ACGIH): None Established
AEL* (Dupont): 1 ,g/m3, total dues, 8 & 12 hr., TWA
Sodium Carbonate
PEL (OSHA): None Established
TLV (ACGIH): None Established
AEL* (Dupont): 5 ,g/m3, 8 hr., TWA

8-EXPOSURE CONTROLS/PERSONAL PROTECTION (Con't)

*AEL is Dupont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

9-PHYSICAL AND CHEMICAL PROPERTIES

Physical Data (for unblended "Oxone" unless otherwise noted)

Boiling Point:	@760 mm Hg Decomposes
Vapor Pressure:	Nil
Vapor Density:	Not volatile
Melting Point:	Decomposes
Evaporation Rate:	(Butyl Acetate = 1) Not volatile
Solubility in Water:	25.6 WT% @ 20^{o}C (68^{o}F)
pH:	1% solution = 2.3, 3% solution = 2
Odor:	Odorless
Form:	Granular; free flowing solid
Color:	Blue
Specific Gravity:	1.1 – 1.4

10-STABILITY AND REACTIVITY

Chemical Stability:

Stable when handled and stored as indicated. The mixture reacts when moistened with small quantities of water to produce heat and carbon dioxide gas.

Incompatibility with Other Materials

The mixture of potassium monopersulfate with compounds containing halides or active halogens can cause release of the respective halogen if moisture is present. For example, mixing with calcium hypochlorite or sodium bromide can cause release of hydrogen cyanide gas. Mixing with heavy metal salts such as those of cobalt, nickel, copper or manganese can cause decomposition with release of oxygen and heat.

Decomposition:

Decomposes when heated or dampened, releasing oxygen and heat of decomposition.

Polymerization

Polymerization will not occur

11-TOXICOLOGICAL INFORMATION

Animal Data

Oxone Monopersulfate

Inhalation 4 hour LC50:	>5 mg/L in rate
Skin absorption LD50:	>11,000 mg/kg in rabbits
Oral LD50:	200 – 2000 mg/kg in rats

Potassium Monopersulfate is a severe skin and eye irritant, but is not a skin sensitizer in animals. Single exposures by inhalation to potassium monopersulfate produced nonspecific effects such as weight loss and slight respiratory irritation. Repeated inhalation exposures produced eye irritation and reversible corneal damage. Administration of large single ingestion doses of potassium monopersulfate produced nonspecific effects such as weight loss and irritation, as well as gastric ulceration, necrosis and hemorrhage. Repeated administration of potassium monopersulfate at a combined dosage of 1000/600 mg/kg for 13 weeks caused pathological changes of the stomach, body weight loss, gasping, noisy respiration, and hunched posture. There were no toxic effects noted at 20 or 200 mg/kg and the no-observed-adverse-effect level (NOAEL) is considered to be 200 mg/kg. Tests for carcinogenic activity or reproductive toxicity have not been performed. A range-finding developmental toxicity study showed developmental effects only at exposure levels producing other toxic effects in the adult animal. Potassium monpersulfate did produce genetic damage in mammalian cell cultures. It did not produce genetic damage in tests on animals, but showed some evidence of bone marrow cell toxicity in female mice.

Sodium Carbonate:

Oral LD50: 4200 mg/kg in rats

The compound is a skin irritant, is a severe eye irritant, but is untested for animal sensitization. Single exposure by inhalation caused respiratory irritation. Repeated exposures caused reduced weight gain and respiratory irritation. No animal data are available to define the carcinogenicity or reproductive hazards of the material. In animal testing, sodium carbonate has not caused developmental toxicity. It does not produce genetic damage in bacterial or mammalian cell cultures or animals, but has not been tested for heritable genetic damage

12-ECOLOGICAL INFORMATION

Ecotoxicological Information
Aquatic Toxicity
Oxone
96 hour LC50, rainbow trout: 53 mg/L
48 hour EC50, daphnia magna: 3.5 mg/L
Sodium Carbonate
96 hour LC50, daphnia magna: 265-565 mg/L
96 hour LC50, bluegill sunfish: 300-320 mg/L

13- DISPOSAL CONSIDERATIONS

Waste Disposal:
Comply with Federal, State and local regulations. Solutions of unblended potassium monopersulfate greater than 3% by weight have a pH <2,0, and may be a RCRA hazardous waste upon disposal due to the acidic pH characteristic of the solution. If approved, flush to sewer or waste treatment plant. Large quantities should be neutralized with soda ash, as needed to adjust pH.

14-TRANSPORTATION INFORMATION

Shipping Information
DOT/IMO
Proper Shipping Name: Corrosive, Solid, Acidic, Inorganic N.O.S. (monopersulfate compound)
Hazard Class: 8
UN No.: 3260
DOT/IMO label: II
Shipping Containers:
Plastic bottles/pails

15-REGULATORY INFORMATION

U.S. Federal Regulations
TSCA Inventory Status: Reported/Included
Title III Hazard Classifications Sections 311, 312
Acute: Yes
Chronic: No
Fire: No
Reactivity: No
Pressure: No
Lists:
SARA Extremely Hazardous Substance: No
CERCLA Hazardous Material: No
SARA Toxic Chemical: No

16-OTHER INFORMATION

Date Prepared: June 2011
Revision Date: December 2014
NPPA, NPCA-HMIS
NPCA-HMIS Rating:
Health: 3
Flammability: 0
Reactivity: 1
Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.
This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.