AMMONIUM PERSULPHATE

PRODUCT INFORMATION

CHEMICAL NAME: Ammonium Persulphate
SYNONYM(S): Ammonium peroxydisulfate, ammonium persulfate plus; ammonium persulfate coarse.
CHEMICAL FAMILY: Persulphates MOLECULAR FORMULA: (NH4)2S2O8
SHIPPING NAME: Ammonium persulphate
PIN - (UN/NA): 1444 CLASS: 5.1 GROUP: III WHMIS: C D2B
PRODUCT USE:
Polymerization initiator in polymer chemistry; etchant and cleaner in the manufacturer of printed boards; booster in hair bleaching cosmetics.
MANUFACTURER: FMC Corporation 1735 Market Street, Philadelphia, PA., 19103

SUPPLIER: Panther Industries Inc. Box 698 Davidson, Sask. S0G 1A0
EMERGENCY TELEPHONE NUMBER: (306)567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	WEIGHT %	C.A.S. REGISTRY #
Ammonium persulphate	99-100	7727-54-0

PHYSICAL DATA

PHYSICAL STATE: Solid 0DOUR AND APPEARANCE: White crystals, no odour.
ODOUR THRESHOLD: Not applicable MOLECULAR WEIGHT: 228.2
VAPOUR PRESSURE: Not Applicable VAPOUR DENSITY(air=1): 7.9
MELTING POINT: 120C decomposes EVAPORATION RATE: Not applicable
pH: 4.0 for a 1% solution BOILING POINT: Not applicable
SOLUBILITY IN WATER: % by wt @ 25oC BULK DENSITY: Data not available
SPECIFIC GRAVITY: 1.98 % VOLATILE BY VOLUME: 0%
COEFFICIENT OF WATER/OIL DISTRIBUTION: Data not available

FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Non-flammable
MEANS OF EXTINGUISHING: Deluge with water
FLASH POINT: Not applicable UPPER FLAMMABLE LIMIT: Not applicable
LOWER FLAMMABLE LIMIT: Not applicable
AUTO IGNITION TEMPERATURE: Not applicable
HAZARDOUS COMBUSTION PRODUCTS: On decomposition, product releases oxygen which may intensify fire. Presence of water accelerates decomposition. Other combustion products include ammonia gas and oxides of sulphur and nitrogen.
SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH-approved self-contained breathing apparatus and protective clothing. Use water spray to cool containers.
MEANS OF EXTINCTION: Product does not burn. Deluge fire with water. Do not use carbon dioxide or other gas-filled fire extinguishers; they have no effect on decomposing persulphates.
EXPLOSION HAZARDS: None

AMMONIUM PERSULPHATE

REACTIVITY DATA

STABILITY: Stable under normal conditions. Becomes unstable in presence of moisture.
Avoid heat and moisture.
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITY: Acids, alkalis, halides (fluorides, chlorides, bromides), combustible materials, heavy metals, oxidizable materials, reducing agents and moisture.
HAZARDOUS REACTIONS/DECOMPOSITIONS: Decomposition products include oxygen which supports combustion and oxides of sulphur and nitrogen.
CONDITIONS TO AVOID: Heat, moisture, reducing agents.

HEALTH HAZARD DATA

INHALATION: Airborne dust may be irritating to nose, lungs, and throat. Exposure to high levels of dust may cause difficulty in breathing in sensitive persons. Dust may be harmful. Shortness of breath may occur.
SKIN CONTACT: Airborne dust may be irritating to skin. Low dermal toxicity.
Non-irritating(rabbit) [FMC Study I87-0970]
May be a sensitizer to allergic people.
EYE CONTACT: Airborne dust may be irritating to eyes.
Minimally irritating(rabbit) [FMC I87-0968]
INGESTION: Moderately toxic when digested.
CHRONIC EXPOSURE EFFECTS: Sensitive persons may develop dermatitis and asthma.
EXPOSURE LIMITS: ACGIH TWA = 0.1 mg/m3 as S2O8 for 8 hours.
IRRITANCY: Irritant REPRODUCTIVE TOXICITY: Data not available
MUTAGENICITY: Not available
CARCINOGENICITY: Not considered to be carcinogenic by NTP, OSHA, and IARC
SENSITIZATION: Data not available
TOXICOLOGICALLY SYNERGISTIC MATERIALS: Not available
TERATOGENICITY DATA: Data not available
ANIMAL TOXICITY DATA: LD50 (dermal,rabbit) > 200mg/kg [FMC I91-1200]
LD50 (oral,rat) = 689 mg/kg
LC50 (inhalation,rat) > 2.95mg/L (4 hour maximum attainable concentration) [FMC I87-0969]

FIRST AID MEASURES

INHALATION: If irritation or breathing difficulty occurs, remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention if irritation occurs.
SKIN CONTACT: Remove contaminated clothing. Wash thoroughly with soap and water. Seek medical attention if irritation persists.
EYE CONTACT: Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention.
INGESTION: Do not induce vomiting. Rinse mouth with water and give 1 or 2 glasses of water to dilute. Do not give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention.
NOTES TO PHYSICIAN:
Aside from allergic reactions such as dermatitis and asthma reported in one case only, exposure problems are related to the oxidizing properties and resemble, and are treated like those caused by strong acids. However, attempts to neutralize with basic or halide-containing materials should be avoided because of possible exothermic reaction. Flooding of exposure areas with water is suggested, but gastric

lavage or emesis induction for ingestions must consider the possible aggravation of esophageal injury and the expected absence of system effects. Demulcents may be helpful. Treatment is otherwise supportive and symptomatic.

PREVENTATIVE MEASURES

RESPIRATORY PROTECTION: A NIOSH-approved dust/mist respirator is recommended. Where a higher level of protection is required, use a self-contained breathing apparatus.
SKIN PROTECTION: Impervious gloves, body suit, boots, and other resistant protective clothing (rubber or PVC). Wash contaminated clothing with soap and water and dry before reuse.
EYE/FACE PROTECTION: Eye protection such as chemical type goggles and face mask, should be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.
SPECIAL HANDLING PROCEDURES: Avoid prolonged or repeated skin contact. Use sensible industrial hygiene and housekeeping practices. Avoid dust formations. Wash thoroughly after handling. Avoid situations that could lead to harmful exposure. Use clean plastic or stainless steel scoops only to transfer product.
STORAGE REQUIREMENTS: Store in a cool, dry, well-ventilated place. Keep container tightly closed, and away from incompatible materials.
ENGINEERING CONTROLS: Use general or local mechanical exhaust ventilation to control dust and to meet TLV requirements.
SPECIAL SHIPPING REQUIREMENTS: UN = 1444, Class = 5.1, PG = II
OTHER PRECAUTIONS: None

ENVIRONMENTAL PROTECTION DATA

STEPS IN THE EVENT OF A LEAK OR SPILL: Material should be put into an approved container and isolated for disposal. If material is wet, dilute with a largequantity of water, and dispose in accordance with government regulations.
ENVIRONMENTAL EFFECTS:
Biodegradability does not apply to inorganic substances. No other fate data available.
LC50(Bluegill sunfish,96 hour) = 103 mg/L [FMC Study I92-1246]
LC50(Rainbow trout,96 hour) = 76.3 mg/L [FMC Study I92-1247]
LC50(Daphnia, 48 hour) = 120 mg/L [FMC Study I92-1248]
LC50(Grass shrimp, 96 hour = 391 mg/L [FMC Study I92-1249]
DEACTIVATING CHEMICALS: Data not available
WASTE DISPOSAL METHODS: Dispose in accordance with all local, provincial and federal environmental laws.

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Department Panther Industries Inc.
TELEPHONE NUMBER: (306) 567-2814
DATE PREPARED/REVISED: July 11 2012
DATE PRINTED: July 11 2012
REFERENCES:
1. Manufacturer's MSDS.
2. Gessner G. Hawley, "The Condensed Chemical Dictionary, 10th Edition" (Van Nostrand Reinhold Co.) 1981.