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MATERIAL DATA SAFETY SHEET

1-Chloro naphthalene. Code. C 2121.

Section 1 - Chemical Product MSDS Name:1-Chloronaphthalene ca. 90% remainder 2-chloronaphthalene Material Safety Data Sheet Synonym:alpha-Chloronaphthalene/beta-chloronaphthalene

Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS# Chemical Name content EINECS# 90-13-1 1-Chloronaphthalene 90 201-967-3 Hazard Symbols: XN Risk Phrases: 22

Section 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW Harmful if swallowed. Potential Health Effects Eye: Causes severe eye irritation. Skin: Causes severe skin irritation. Ingestion:

Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause skin eruptions and/or acne.

Inhalation: Causes respiratory tract irritation. May cause effects similar to those described for ingestion. Chronic: Not available.

Section 4 - FIRST AID MEASURES

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if symptoms occur. Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately. Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen.

Notes to Physician:

Section 5 - FIRE FIGHTING MEASURES

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Section 6 - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8. Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - HANDLING and STORAGE

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Storage:

Store in a cool, dry place. Keep container closed when not in use.

Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels. Exposure Limits CAS# 90-13-1: Germany: 0.2 mg/m3 TWA CAS# 91-58-7: Germany: 0.2 mg/m3 TWA Russia: 0.5 mg/m3 TWA Personal Protective Equipment Eyes: Wear chemical splash goggles. Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid Color: clear colorless to yellow Odor: mothball-like pH: Not available. Vapor Pressure: 0.016 mm Hg @ 20 deg C Viscosity: Not available. Boiling Point: 259 deg C Freezing/Melting Point: -2.5 deg C Autoignition Temperature: 587 deg C (1,088.60 deg F) Flash Point: 121 deg C (249.80 deg F) Explosion Limits, lower: Not available. Explosion Limits, upper: Not available. Decomposition Temperature: Solubility in water: Negligible. Specific Gravity/Density: 1.190 g/ml Molecular Formula: C10H7CI Molecular Weight: 162.62

Section 10 - STABILITY AND REACTIVITY

Chemical Stability: Stable under normal temperatures and pressures. Conditions to Avoid: Excess heat. Incompatibilities with Other Materials: Strong oxidizing agents. Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, carbon dioxide. Hazardous Polymerization: Has not been reported.

Section 11 - TOXICOLOGICAL INFORMATION

RTECS#: CAS# 90-13-1: QJ2100000 CAS# 91-58-7: QJ2275000 LD50/LC50: CAS# 90-13-1: Oral, mouse: LD50 = 1091 mg/kg; Oral, rat: LD50 = 1540 mg/kg. CAS# 91-58-7: Oral, mouse: LD50 = 886 mg/kg; Oral, rat: LD50 = 2078 mg/kg. Carcinogenicity: 1-Chloronaphthalene - Not listed by ACGIH, IARC, or NTP. 2-Chloronaphthalene - Not listed by ACGIH, IARC, or NTP. Other: See actual entry in RTECS for complete information.

Section 12 - ECOLOGICAL INFORMATION

Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - TRANSPORT INFORMATION

IATA Not regulated as a hazardous material. IMO Not regulated as a hazardous material. RID/ADR Shipping Name: Not regulated. Hazard Class: UN Number: Packing group: USA RQ: CAS# 91-58-7: 5000 lb final RQ; 2270 kg final RQ

Section 15 - REGULATORY INFORMATION

European/International Regulations European Labeling in Accordance with EC Directives Hazard Symbols: XN Risk Phrases: R 22 Harmful if swallowed. Safety Phrases: WGK (Water Danger/Protection) CAS# 90-13-1:2 CAS# 91-58-7: No information available. Canada CAS# 90-13-1 is listed on Canada's DSL List. CAS# 91-58-7 is listed on Canada's DSL List. CAS# 90-13-1 is not listed on Canada's Ingredient Disclosure List. CAS# 91-58-7 is not listed on Canada's Ingredient Disclosure List. **US FEDERAL** TSCA CAS# 90-13-1 is listed on the TSCA inventory. CAS# 91-58-7 is listed on the TSCA inventory.

SECTION 16 - ADDITIONAL INFORMATION

N/A