

MATERIAL SAFETY DATA SHEET

Hampford Research, Inc.

SECTION 1. -----CHEMICAL PRODUCT AND COMPANY IDENTIFICATION-----

PHQ (9, 10-)

CHEMICAL FORMULA: C14 H8 O2

CAS NUMBER: 84-11-7

CHEMICAL NAME: 9, 10 Phenanthrenequinone

REVISED: 10/26/2007

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SECTION 2. -----COMPOSITION / INFORMATION ON INGREDIENTS-----

COMPONENT	CAS #	% BY WEIGHT	EXPOSURE LIMITS
9,10-Phenanthrenequinone	84-11-7	100	

SECTION 3. -----HAZARDS IDENTIFICATION-----

EYES: May cause transient irritation.

SKIN: May cause severe irritation, blisters and burns on prolonged contact.
TDLo: 2000 mg/kg (skin/mouse)

SWALLOWING: May irritate respiratory tract. Harmful if swallowed.
Oral LD50: 2200 mg/kg in rats

INHALATION: May irritate mucous membranes. Harmful if inhaled.
Inhalation Treshold Concentration: 1000 mg/m3

SECTION 4. -----FIRST AID MEASURES-----

EYE CONTACT:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN CONTACT:

In case of contact, wash skin with copious amounts of water for at least 15 minutes. Wash contaminated clothing before reuse. Get medical attention if symptoms are present after washing.

INGESTION:

If swallowed, gargle with water. Drink 1-2 glasses of milk or water and induce vomiting. Call a physician immediately.

INHALATION:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SECTION 5. -----FIRE FIGHTING MEASURES-----

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Combustible when coming in contact with fire and high heat.

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FIRE EXTINGUISHING MEDIA:

Carbon dioxide, dry chemical or appropriate foam.

SPECIAL FIREFIGHTING INSTRUCTIONS:

Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

SECTION 6. -----ACCIDENTAL RELEASE MEASURES-----

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Wear respirator, chemical safety goggles, rubber boots and rubber gloves.

SPILL CLEANUP MEASURES:

Sweep up. Avoid dust generation. Place in suitable container and hold for proper disposal.

SECTION 7. -----HANDLING AND STORAGE-----

HANDLING AND STORAGE REQUIREMENTS:

Store in a cool, dry, well ventilated area. Keep container tightly closed. Avoid dust generation. Keep material away from sources of heat and fire. Handle containers with care to prevent breakage. Keep from contact with oxidizing materials.

SECTION 8. -----PERSONAL PROTECTION/EXPOSURE CONTROLS-----

EYE/FACE PROTECTION: Wear safety goggles. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact from airborne material. Eye bath available.

SKIN PROTECTION: Wear appropriate impervious clothing such as compatible chemical-resistant. Safety shower available.

RESPIRATORY PROTECTION: NIOSH/MSHA approved air purifying respirator.

ENGINEERING CONTROLS: Operate under air-tight conditions. Good general room ventilation should be used. Local exhaust may be needed.

SECTION 9. -----PHYSICAL AND CHEMICAL PROPERTIES-----

PHYSICAL STATE: Crystals
MELTING POINT: 206°C-209°C (403°F-408°F)
BOILING POINT: >360°C (>680°F) (sublimes)
SPECIFIC GRAVITY: 1.4045
APPEARANCE: Yellow-orange to orange-red
ODOR: Negligible
OTHER: Solubility in water: insoluble

SECTION 10. -----STABILITY AND REACTIVITY-----

INCOMPATIBILITIES:
Avoid strong oxidizing agents.

HAZARDOUS DECOMPOSITION:
Toxic fumes of carbon monoxide, carbon dioxide and unknown black smoke.

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CHEMICAL STABILITY:

Stable.

HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

SECTION 11. -----TOXICOLOGICAL INFORMATION-----

TOXICOLOGICAL EFFECTS:

Mutation Data
System mutation in DNA repair
Organism Salmonella typhimurium Bacillus Subtilis
Dose 30 umo /L 400 ug/pla te

MUTATION DATA REFERENCES:

PNASA6 Proceedings of the National Academy of Sciences of the United Sates of America (National Academy of Sciences, Printing & Pub. Office, 2101 Constitution Ave., Washington, DC 20418) V.1- 1915- MUREAV Mutation Research (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964-

Tumorigenic Data

Route skin
Organism mouse
Dose TDLo 800 mg/kg
Duration 29W-C

TUMORIGENIC DATA REFERNCES:

PIATA8 Proceedings of the Imperial Academy of Tokyo (Tokyo, Japan) V.1-21, 1912-45. For publisher information, see PJACAW.

Toxicity Data

Route intraperitoneal
Organism mouse
Dose LDLo 165 mg/kg

TOXICITY DATA REFERENCES:

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59

SECTION 12. -----ECOLOGICAL INFORMATION-----

ECOLOGICAL EFFECTS:

Data not yet available.

SECTION 13. -----DISPOSAL INFORMATION-----

WASTE MANAGEMENT PROCEDURES:

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State and Local environmental regulations.

SECTION 14. -----TRANSPORT INFORMATION-----

TRANSPORTATION INFORMATION:

This substance is considered to be Non-hazardous for transport.

-----DOT (DOMESTIC SURFACE)-----

PROPER SHIPPING NAME: Not Regulated not listed by DOT

HAZARD CLASS OR DIVISION:

UN / NA NUMBER:

PACKING GROUP:

DOT PRODUCT RQ lbs (kgs):

HAZARD LABEL (s):

HAZARD PLACARD (s):

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-----IMO / IMDG CODE (OCEAN)-----

PROPER SHIPPING NAME: Not Regulated not listed by IMDG

HAZARD CLASS DIVISION NUMBER:

UN NUMBER:

PACKAGING GROUP:

HAZARD LABEL (s):

HAZARD PACKARD (s):

-----ICAO / IATA (AIR)-----

PROPER SHIPPING NAME: Not Regulated not listed by IATA

HAZARD CLASS DIVISION NUMBER:

UN NUMBER:

SUBSIDIARY RISK:

PACKING GROUP:

HAZARD LABEL (s):

RADIOACTIVE?:

PASSENGER AIR - MAX QTY:

PASSENGER PACKING INSTRUCTION:

CARGO AIR - MAX QTY:

CARGO AIR PACKAGING INSTRUCTION:

SECTION 15. -----REGULATORY INFORMATION-----

REGULATORY INFORMATION:

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):

Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):

Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: No

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED): Not determined.

EC RISK AND SAFETY PHRASES:

R 64 May cause harm to breastfed babies.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

SECTION 16. -----ADDITIONAL INFORMATION-----

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N/A

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Material Safety Data Sheet

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