MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT: PHENACETIN Melting Point Standard
MSDS DATE: 19 Mar, 2012

Notice

NSF Reference Standards are for test and assay use only and are not intended for human or animal consumption. This document communicates information relating to test and assay use only and may not be applicable for any unauthorized use.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Phenacetin Melting Point Standard
Catalog Code: RS1-0060
Synonym: N-(4-Ethoxyphenyl)acetamide
Chemical Formula: C_{10}H_{13}NO_{2}
CAS #: 62-44-2

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Name: Phenacetin
CAS#: 62-44-2

% by Weight: 100%

Toxicological Data on Ingredients: Phenacetin: ORAL(LD50): Acute: 1650mg/kg [Rat]; 866 mg/kg [Mouse]; 2500 mg/kg [Rabbit]

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Hazardous in case of ingestion, slightly hazardous in case of skin contact (irritant), of eye contact (irritant), and/or of inhalation.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Classified 2A (Probable for Human.) by IARC, Anticipated carcinogen by NTP.
MUTAGENIC EFFECTS: Not Available
TERATOGENIC EFFECTS: Not Available
DEVELOPMENTAL TOXICITY: Not Available.
The substance may be toxic to blood, kidneys, and liver. Repeated or prolonged exposure to the substance can produce target organ damage.

SECTION 4: FIRST AID MEASURES

Eye Contact:
Check for and remove contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes, keeping eyelids open. Cold water may be used. Seek medical attention if irritation occurs. Finish by rinsing thoroughly with running water to avoid a possible infection.

Skin Contact:
Wash skin with soap and water. Cover the irritated skin with an emollient. Seek medical attention if irritation develops. Cold water may be used.

Serious Skin Contact:
Not Available.

Inhalation:
If inhaled, remove to fresh air and seek immediate medical attention.

Serious Inhalation:
Not Available

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. If large quantities of material are swallowed seek immediate medical attention.

Serious Ingestion:
Not Available.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.
Auto-Ignition Temperature: Not Available
Flammable Limits: Not Available
Flash Points: Not Available
Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂ ...)
Special Remarks on Explosion Hazards: Not Available
Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not Available
Risks of explosion of the product in presence of static discharge: Not Available
Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. After powder clean up, spread water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use appropriate tools to put the material into a suitable waste disposal container. Neutralize the residue with a dilute solution of acetic acid. Finish clean up, spread water on the contaminated surface and allow to evacuate through sanitary system.

SECTION 7: HANDLING AND STORAGE

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear personal protective equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, reducing agents, acids.

Storage:
Keep container tightly closed in a cool, well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Use process enclosures, local exhaust ventilation or other appropriate engineering controls to keep exposure to airborne contaminants below the exposure limit. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Safety glasses, lab coat, gloves and dust respirator should be worn. Be sure to use an approved/certified respirator or equivalent.

Personal Protection in Case of a Large Spill:
Splash goggles, full suit, dust respirator, boots and gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist before handling this product.

Exposure Limits: Not Available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid. (Solid crystalline powder.)
Odor: odorless
Taste: Bitter. (Slight.)
Molecular Weight: 179.22 g/mol
Color: White
pH (1% soln/water): Not Available.
Boiling Point: Decomposes
Melting Point: 134 °C (273.2 °F)
Critical Temperature: Not Available
Specific Gravity: Not Available
Vapor Pressure: Not Available
Vapor Density: Not Available
Volatile: Not Available.
Odor Threshold: Not Available
Water/Oil Dist. Coeff.: The product is more soluble in oil; log (oil/water) = 1.6
Ionicity (in Water): Not Available
Dispersion Properties: See solubility in water diethyl ether, acetone.
Solubility: Soluble in acetone. Material is partially soluble in cold water, hot water, diethyl ether. 1g dissolves in 1310 ml cold water, 82 ml boiling water, 15 ml cold alcohol, 2.8 ml boiling alcohol, 14 ml chloroform, 90 ml ether. Material is soluble in glycerol, very soluble in pyrmidine and slightly soluble in benzene. Solubility in water: 530 mg/l @ 25 °C

SECTION 10: STABILITY AND REACTIVITY

Stability: The product is stable.
Instability Temperature: Not Available.
Conditions of Instability: Excessive heat, incompatible materials.
Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, acids, alkalis.
Corrosivity: Non-corrosive in presence of glass.
Special Remarks on Reactivity: Incompatible with oxidizing agents such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine, fluorine. Material is incompatible with strong acids such as hydrochloric, sulfuric, nitric, and incompatible with strong bases such as sodium hydroxide, potassium hydroxide, and incompatible with strong reducing agents.
Special Remarks on Corrosivity: Not Available
Polymerization: Will not occur.

### SECTION 11: TOXICOLOGICAL INFORMATION

**Routes of Entry:** Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD50): 866 mg/kg [Mouse].

**Chronic effects on humans:** CARCINOGENIC EFFECTS: Classified 2A (Probable for human.) by IARC, Anticipated carcinogen by NTP. May cause damage to the following organs: blood, kidneys, liver.

Other Toxic Effects on Humans: Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), or of inhalation.
Special Remarks on Toxicity to Animals: Not Available


Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: May cause eye irritation. Inhalation: May cause respiratory tract irritation. It may cause skin irritation. Inhalation: May cause respiratory tract irritation. It may cause methemoglobinemia (deficient oxygenation of the blood), cyanosis (bluish discoloration of skin and lips due to deficient oxygenation of the blood), which can result in fatigue, dizziness, headache, convulsions/seizures, tachycardia, hypertension, dyspnea (labored breathing), and death. Ingestion: May be harmful if swallowed. It may cause gastrointestinal disturbances, nausea. It may affect behavior/central nervous system (somnolence, convulsions/seizures, ataxia, dizziness, drowsiness, coma), respiration (labored breathing), and cardiovascular system. It may also affect the kidneys, and liver. Chronic Potential Health Effects: Ingestion: Repeated or prolonged ingestion may result in gastrointestinal disturbances, including peptic ulcer. Ingestion and inhalation: Repeated exposure may affect the cardiovascular system (hypertension, cardio arrest), liver (jaundice), kidneys (renal papillary necrosis, dark brown urine), blood (methemoglobinemia, cyanosis, thrombocytopenia, hemolytic anemia), thymus. Skin: Prolonged skin contact may cause allergic reaction (DERMATITIS).

### SECTION 12: ECOLOGICAL INFORMATION
Ecotoxicity: Not Available

BOD5 and COD: Not Available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material in the (United States).
Identification: Not Available.

SECTION 15: REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory Phenacetin
Other Regulations: Not Available

Other Classifications:WHMIS (Canada):CLASS D-2A:Material causing other toxic(VERY TOXIC).

DSCL (EEC): R22-Harmful if swallowed.R45-May cause cancer.S45-In case of accident or if you feel unwell, seek medical advice immediately(show the label where possible).S53-Avoid exposure-obtain special instructions before use.

HMIS (U.S.A.):
Health Hazard: 2
Fire Hazard: 1
Reactivity: 0
Personal Protection: E

National Fire Protection Association (U.S.A.):
Health: 2
Flammability: 1
Reactivity: 0
Specific hazard:
Protective Equipment:
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent when ventilation is inadequate. Safety glasses.

SECTION 16: OTHER INFORMATION

Other Special Considerations: Not Available.

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