



Safety Data Sheet

Issue Date 02-Feb-2011

Revision Date: 01-Jul-2013

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Phthalic anhydride

Other means of identification

SDS # NC-015

UN/ID No UN3077

Recommended use of the chemical and restrictions on use

Recommended Use For industrial use.

Details of the supplier of the safety data sheet

Supplier Address

Neuchem Inc.
2062 Union Street, Suite 300
San Francisco, CA 94123 USA
www.neuchem.com

Emergency Telephone Number

Company Phone Number Phone: 415-345-9353

Fax: 415-345-9350

Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America) Account No. 100534

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3

Signal Word

Danger

Hazard Statements

Harmful if swallowed
 Harmful if inhaled
 Causes skin irritation
 Causes serious eye damage
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause an allergic skin reaction
 May cause respiratory irritation

**Appearance** Crystalline**Physical State** Solid**Odor** No data available**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Wear protective gloves/protective clothing/eye protection/face protection
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash it before reuse
 Immediately call a POISON CENTER or doctor/physician
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 Immediately call a POISON CENTER or doctor/physician

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
 Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Phthalic anhydride	85-44-9	>99.5

4. FIRST-AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Solid. Seek medical attention immediately. Remove contact lenses, if present and easy to do. Continue rinsing. Liquid. Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Rinse immediately with plenty of water for 15 minutes. Keep eye wide open while rinsing. Seek immediate medical advice.
Skin Contact	Solid. After contact with skin, wash immediately with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Liquid. After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. Seek medical advice. Do not try to remove product crusts from affected parts of the skin by force or by using solvents. Seek medical attention immediately. Rinse thoroughly with plenty of water for at least 20 minutes and take medical advice. Thoroughly clean shoes before re-using. After contact with the molten product, cool rapidly with cold water.
Inhalation	Solid. Remove casualty to fresh air and keep warm and at rest. In case of hazardous fumes, wear autonomous breathing apparatus. In case of irregular breathing or respiratory arrest provide artificial respiration. If not breathing, give artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use respiratory bag or oxygen resuscitation apparatus. Seek medical advice. If unconscious, place in the recovery position and seek medical advice. Liquid. Move victim out of danger zone. Move to fresh air. In case of breathing difficulties administer oxygen. Put victim at rest, cover with a blanket and keep warm.
Ingestion	Solid. If swallowed, rinse mouth with water (only if the person is conscious). Remove casualty to fresh air and keep warm and at rest. Give water to drink if victim completely conscious/alert. If swallowed, do not induce vomiting: seek medical advice immediately and show this container label. Caution if victim vomits: Risk of aspiration!. Never give anything by mouth to an unconscious person. In case of unconsciousness place in unconscious position and seek medical advice. Liquid. Seek medical advice. Unconscious: maintain adequate airway and respiration. If the person is fully conscious, make him/her drink water. Never give an unconscious person anything to drink.

Most important symptoms and effects

Symptoms	Irritation to skin and eyes. Irritating to the respiratory system, may cause throat pain and cough. Abdominal pain and nausea. Burning sensation. pulmonary edema. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Avoid any direct contact with the product. Keep victim warm and rested. Symptomatic treatment should include, above all, measured of support as correction of hydro electrolytic and metabolic disturbances and respiratory failure.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Water spray. carbon dioxide (CO₂), dry chemical powder, foam.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Combustible if heated. Dust may form explosive mixture in air. Explosive vapor/air mixtures may be formed.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- Personal Precautions** Wear protective clothing as described in Section 8 of this safety data sheet.
- For Emergency Responders** Follow applicable OSHA regulations (29 CFR 1910.120).
- Environmental Precautions** Prevent entry to sewers and public waters.

Methods and material for containment and cleaning up

- Methods for Containment** If melted: allow liquid to solidify before taking it up. Solid spill: shovel into dry and closing drums.
- Methods for Clean-Up** Dispose of this material and its container to hazardous or special waste collection point. Ensure waste is collected and contained. Dispose in a safe manner in accordance with local/national regulations. Do not empty into drains or the aquatic environment.

7. HANDLING AND STORAGE

Precautions for safe handling

- Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Do not handle near incompatible materials. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. Ground container and transfer equipment to eliminate static electric sparks.

Conditions for safe storage, including any incompatibilities

- Storage Conditions** Solid. Keep container tightly closed and dry. Protect from sunlight. Store in a well-ventilated place. storage temperature: Store under inert atmosphere. Keep contents under nitrogen. store in adequate storage tanks placed in containment basin to retain product in case of leakage.
- Packaging Materials** Solid and Liquid.
- Incompatible Materials** Oxidizing agents, Strong alkalis, Strong acids, Copper oxide (II), Nitric acid, Sulfuric acid, Sodium nitrite.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phthalic anhydride 85-44-9	TWA: 1 ppm	TWA: 2 ppm TWA: 12 mg/m ³ (vacated) TWA: 1 ppm (vacated) TWA: 6 mg/m ³	IDLH: 60 mg/m ³ TWA: 1 ppm TWA: 6 mg/m ³

Other Information

Environmental exposure controls: Avoid release to the environment. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected. Prevent spreading over great surfaces (e.g. by damming or installing oil booms). Relevant water authorities should be notified of any large spillage to water course or drain.

Appropriate engineering controls**Engineering Controls**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Local exhaust is needed at source of vapors. In case of inadequate ventilation wear respiratory protection.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Safety goggles. Don't wear contact lenses.

Skin and Body Protection

Solid. Liquid. Full protective suit. Wear protective PVC gloves/protective clothing/eye protection/face protection.

Respiratory Protection

Helmet / breathing hood.

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Solid	Odor	No data available
Appearance	Crystalline	Odor Threshold	No data available
Color	Colorless		
Property	Values	Remarks • Method	
pH	No data available		
Melting Point/Freezing Point	131.6 °C / 268.88 °F		
Boiling Point/Boiling Range	284.5 °C / 544.1 °F		Standard pressure (101.325 kPa)
Flash Point	152 °C / 305.6 °F		CC (closed cup)
Evaporation Rate	No data available		
Flammability (Solid, Gas)	Not Flammable		
Upper Flammability Limits	10.85%		
Lower Flammability Limit	1.7%		
Vapor Pressure	0.0006 hPa at 26.6 °C (79.88°F)		
Vapor Density	5.1	@ 20°C (68°F)	
Specific Gravity	1.527 g/cm ³ at 20 °C (68°F)		
Water Solubility	6000-16400 mg/l (According to literature)		
Solubility in other solvents	Soluble in most organic solvents. Soluble in carbon disulfide. Soluble in formic acid (470 g/L at 20°C / 68°F)		
Partition Coefficient	1.6 measured		
Autoignition Temperature	580 °C / 1076 °F		
Decomposition Temperature	Not available		
Kinematic Viscosity	Not data available		
Dynamic Viscosity	1.19 mPa s	@ 132°C / 269.6 °F	
Explosive Properties	No data available		
Oxidizing Properties	No data available		
Molecular Weight	148.1156		

10. STABILITY AND REACTIVITY

Reactivity

Phthalic anhydride reacts rapidly with water, forming phthalic acid.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Incompatible Materials. Avoid moisture.

Incompatible Materials

Oxidizing agents, Strong alkalis, Strong acids, Copper oxide (II), Nitric acid, Sulfuric acid, Sodium nitrite.

Hazardous Decomposition Products

Carbon dioxide (CO₂). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Eye Contact	Causes serious eye damage.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction. May be harmful in contact with skin.
Inhalation	Harmful if inhaled. May cause irritation of respiratory tract. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phthalic anhydride 85-44-9	800 - 1600 mg/kg (Rat) = 1530 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	> 2.14 mg/L (Rat) 4 h

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
STOT - single exposure	May cause respiratory irritation.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence/Degradability

Rapidly degradable. low persistence

Bioaccumulation

The product presents low bioaccumulative potential in aquatic organisms

Mobility

Direct and indirect exposure to soil is unlikely

Chemical Name	Partition Coefficient
Phthalic anhydride 85-44-9	0.73

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Phthalic anhydride 85-44-9	U190	Included in waste streams: F039, K023, K024, K093, K094		U190

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No

Not Regulated (Single Container < RQ)
UN3077

Proper Shipping Name

Environmentally hazardous substances, solid, n.o.s. (Phthalic anhydride)

Hazard Class

9

Packing Group

III

Reportable Quantity (RQ)

5000 lbs

IATA

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

Not determined

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*
- DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List*
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*
- ENCS - Japan Existing and New Chemical Substances*
- IECSC - China Inventory of Existing Chemical Substances*
- KECL - Korean Existing and Evaluated Chemical Substances*
- PICCS - Philippines Inventory of Chemicals and Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phthalic anhydride 85-44-9	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Phthalic anhydride - 85-44-9	85-44-9	>99.5	1.0

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Phthalic anhydride 85-44-9	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards Not determined	Flammability Not determined	Instability Not determined	Special Hazards Not determined
<u>HMIS</u>	Health Hazards Not determined	Flammability Not determined	Physical Hazards Not determined	Personal Protection Not determined

Issue Date	02-Feb-2011
Revision Date:	01-Jul-2013
Revision Note	New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet