



# SAFETY DATA SHEET

Creation Date 19-Nov-2008

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Revision Number 1

## 1. Identification

**Product Name** Phthalic anhydride

**Cat No. :** AC154960000; AC154960010; AC154960025; AC154960050;  
AC154960100; AC154962500

**Synonyms** 1,3-Isobenzofurandione

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

<b>Company</b>	<b>Entity / Business Name</b>	<b>Emergency Telephone Number</b>
Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	Acros Organics One Reagent Lane Fair Lawn, NJ 07410	For information <b>US</b> call: 001-800-ACROS-01 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887

## 2. Hazard(s) identification

### **Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	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
Target Organs - Respiratory system.	

### **Label Elements**

#### **Signal Word**

Danger

#### **Hazard Statements**

Harmful if swallowed  
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

**Precautionary Statements****Prevention**

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

**Inhalation**

If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 Take off contaminated clothing and wash before reuse  
 If skin irritation or rash occurs: Get medical advice/attention

**Eyes**

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

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Storage**

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

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

May form combustible dust concentrations in air

### 3. Composition / information on ingredients

Component	CAS-No	Weight %
Phthalic anhydride	85-44-9	99

### 4. First-aid measures

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Centre immediately.
<b>Most important symptoms/effects</b>	Causes eye burns. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. chemical foam.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 152 °C / 305.6 °F

**Method -** No information available

**Autoignition Temperature** 580 °C / 1076 °F

### Explosion Limits

**Upper** 10.50 vol %

**Lower** 1.70 vol %

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

### Specific Hazards Arising from the Chemical

Fine dust dispersed in air may ignite. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

### Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO<sub>2</sub>)

### 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.

### NFPA

**Health**  
2

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Remove all sources of ignition. Avoid dust formation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

**Environmental Precautions** Avoid release to the environment. See Section 12 for additional ecological information.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe vapors/dust. Do not get in eyes, on skin, or on clothing. Do not ingest. Protect from moisture.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

## 8. Exposure controls / personal protection

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phthalic anhydride	TWA: 1 ppm	(Vacated) TWA: 1 ppm (Vacated) TWA: 6 mg/m <sup>3</sup> TWA: 2 ppm TWA: 12 mg/m <sup>3</sup>	IDLH: 60 mg/m <sup>3</sup> TWA: 1 ppm TWA: 6 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
Phthalic anhydride	TWA: 1 ppm TWA: 6.1 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 6 mg/m <sup>3</sup> STEL: 4 ppm STEL: 24 mg/m <sup>3</sup>	TWA: 1 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

<b>Engineering Measures</b>	Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Personal Protective Equipment</b>	
<b>Eye/face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and body protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure.
<b>Respiratory Protection</b>	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.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Solid
<b>Appearance</b>	White
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH</b>	2 - 6 g/l aq.sol
<b>Melting Point/Range</b>	129 - 132 °C / 264.2 - 269.6 °F
<b>Boiling Point/Range</b>	284 °C / 543.2 °F @ 760 mmHg
<b>Flash Point</b>	152 °C / 305.6 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	No information available
<b>Flammability or explosive limits</b>	
<b>Upper</b>	10.50 vol %
<b>Lower</b>	1.70 vol %
<b>Vapor Pressure</b>	0.01 mbar @ 20 °C
<b>Vapor Density</b>	No information available
<b>Relative Density</b>	1.5300
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	580 °C / 1076 °F
<b>Decomposition temperature</b>	No information available
<b>Viscosity</b>	6.4 mP at 197 °C
<b>Molecular Formula</b>	C8 H4 O3
<b>Molecular Weight</b>	148.12

## 10. Stability and reactivity

<b>Reactive Hazard</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions. Moisture sensitive.
<b>Conditions to Avoid</b>	Incompatible products. Exposure to moist air or water. Avoid dust formation.
<b>Incompatible Materials</b>	Acids, Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents
<b>Hazardous Decomposition Products</b>	Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

Acute Toxicity

<b>Product Information</b>	No acute toxicity information is available for this product
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**Component Information****Toxicologically Synergistic** No information available**Products****Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** Severe eye irritant; Irritating to respiratory system and skin**Sensitization** May cause sensitization by inhalation and skin contact**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Phthalic anhydride	85-44-9	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** No information available**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** Respiratory system**STOT - repeated exposure** None known**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing**Endocrine Disruptor Information** No information available**Other Adverse Effects** See actual entry in RTECS for complete information.

## 12. Ecological information

**Ecotoxicity**

Do not empty into drains.

**Persistence and Degradability** No information available**Bioaccumulation/ Accumulation** No information available.**Mobility** .

Component	log Pow
Phthalic anhydride	0.73

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Phthalic anhydride - 85-44-9	U190	-

## 14. Transport information

**DOT**

UN-No	UN2214
Proper Shipping Name	PTHALIC ANHYDRIDE
Hazard Class	8
Packing Group	III

**TDG**

UN-No	UN2214
Proper Shipping Name	PTHALIC ANHYDRIDE

<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>IATA</b>	
<b>UN-No</b>	UN2214
<b>Proper Shipping Name</b>	PHTHALIC ANHYDRIDE
<b>Hazard Class</b>	8
<b>Packing Group</b>	III
<b>IMDG/IMO</b>	
<b>UN-No</b>	UN2214
<b>Proper Shipping Name</b>	PHTHALIC ANHYDRIDE
<b>Hazard Class</b>	8
<b>Packing Group</b>	III

## 15. Regulatory information

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Phthalic anhydride	X	X	-	201-607-5	-		X	X	X	X	X

#### Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

TSCA 12(b) Not applicable

#### SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Phthalic anhydride	85-44-9	99	1.0

#### SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act Not applicable

#### Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Phthalic anhydride	X		-

#### OSHA Occupational Safety and Health Administration

Not applicable

#### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Phthalic anhydride	5000 lb	-

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Phthalic anhydride	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

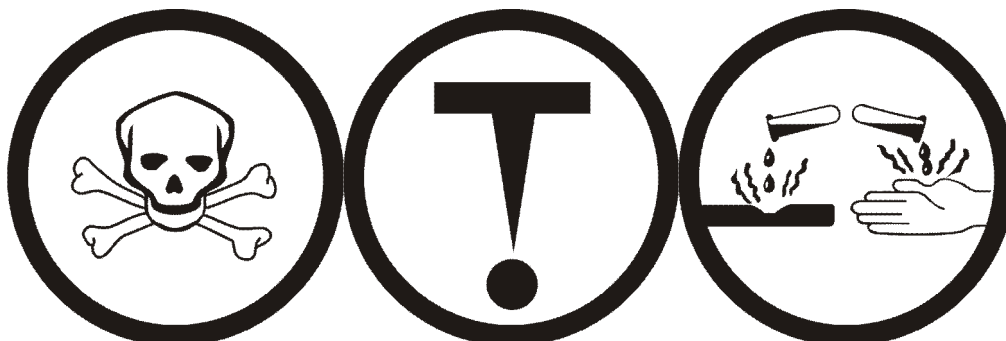
**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class**

D1B Toxic materials  
 D2A Very toxic materials  
 D2B Toxic materials  
 E Corrosive material



**16. Other information**

**Prepared By** Regulatory Affairs  
 Thermo Fisher Scientific  
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**Creation Date** 19-Nov-2008  
**Revision Date** 12-Aug-2014  
**Print Date** 12-Aug-2014  
**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Disclaimer**

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

**End of SDS**