

**1. Identification**

<b>Product identifier</b>	<b>PURIFIED ISOPHTHALIC ACID</b>
<b>Other means of identification</b>	
<b>SDS number</b>	9439
<b>Synonyms</b>	PIA
<b>Recommended use</b>	Industrial manufacture of polymers, resins, and plastics.
<b>Recommended restrictions</b>	Other uses are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled.

**Manufacturer Information**

INEOS Joliet, LLC  
23425 Amoco Road  
Channahon, IL  
60410  
United States

**Telephone numbers - 24 hour emergency assistance**

**Chemtrec (US):** 800-424-9300

**Telephone numbers - general assistance 24 HR (7 DAYS): (8-5 M-F, CST) SDS Assistance:**

866-400-4343  
815-467-3360

**2. Hazard(s) identification**

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>OSHA defined hazards</b>	Combustible dust
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	Warning
<b>Hazard statement</b>	May form combustible dust concentrations in air.
<b>Precautionary statement</b>	
<b>Prevention</b>	Not applicable.
<b>Response</b>	Not applicable.
<b>Storage</b>	Not applicable.

<b>Disposal</b>	Not applicable.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	May form combustible dust concentrations in air. This material may accumulate electrostatic charge which may cause an electrical spark (ignition source) in some cases. Prevent dust accumulation to minimize explosion hazard. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Clean up spilled material immediately.

### 3. Composition/information on ingredients

#### Substances

Chemical name	Common name and synonyms	CAS number	%
ISOPHTHALIC ACID		121-91-5	100

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

**Composition comments** This Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and is not intended to communicate product specification information. For product specification information, contact your INEOS Joliet, LLC representative.

### 4. First-aid measures

**Inhalation** If overcome from exposure to excessive levels of dust, mist, or fumes, remove affected individual from source of exposure to fresh air. Get medical attention.

**Skin contact** Immediately wash skin with plenty of soap and water after removing contaminated clothing and shoes. Get medical attention if irritation develops or persists.

**Eye contact** Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation develops or persists.

**Ingestion** Rinse mouth out with water. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. Get medical attention.

#### Most important symptoms/effects, acute and delayed

##### INHALATION:

Dusts may be irritating to the nose, throat and lungs (respiratory tract). Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

##### SKIN:

Dusts may cause irritation due to abrasion.

##### EYES:

Dusts may cause mechanical irritation including pain, tearing and redness. Effects may become more serious with repeated or prolonged contact.

##### INGESTION:

Ingestion of large amounts may cause gastrointestinal disturbances.

#### Indication of immediate medical attention and special treatment needed

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5. Fire-fighting measures

**Suitable extinguishing media** Use water spray, dry chemical, carbon dioxide or fire-fighting foam for Class B fires to extinguish fire.

**Unsuitable extinguishing media** Small Fires: Do not use water. Large Fires: Do not use a solid water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

Combustion may produce CO<sub>x</sub>, reactive hydrocarbons, irritating vapors, and other decomposition products in the case of incomplete combustion.

Material will burn in a fire.

This material, as produced, is explosive as defined by established regulatory criteria.

This material may accumulate static charge which can cause an electrical spark (ignition source) in some cases. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

See Combustible Dust Property data in Section 9.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

**Special protective equipment and precautions for firefighters**

Evacuate area and fight fire from a safe distance. Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow, if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire. Always stay away from tanks engulfed in flame.

Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Avoid inhalation of dust. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Local authorities should be advised if significant spillages cannot be contained. FOR NON-EMERGENCY PERSONNEL: FOR EMERGENCY RESPONDERS: Eliminate and/or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away; isolate hazard area and deny entry. For spills in confined areas, ensure adequate ventilation. For spills outdoors, stay upwind. IF TANK, RAILCAR OR TANK TRUCK IS INVOLVED IN A FIRE, isolate for 800 meters (1/2 mile) in all directions. Evacuate area endangered by release as required. See Exposure Controls/Personal Protection (Section 8).

**Methods and materials for containment and cleaning up**

Keep unnecessary people away. Isolate area for at least 25 meters (75 feet) in all directions to preserve public safety. For large spills, if downwind consider initial evacuation for at least 60 meters (200 feet).

This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

For small spill, sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Use approved industrial vacuum cleaner for removal or use non-sparking tools to collect spillage. Grounding, bonding, and intrinsic safety of equipment used should be considered. Avoid cleanup procedures that may result in water pollution. Use non-sparking tools and grounded equipment for clean-up. Prevent or minimize formation of a dust cloud or layer during cleanup.

For personal protection in case of a large spill, use chemical/dust goggles, face shield, boots, and gloves. If concentration is unknown, a Self-Contained Breathing Apparatus (SCBA) should be used to avoid inhalation of the material. A respirator that will protect against organic vapor and dust/mist may be used where concentrations are known and the respirator's assigned protection factor is adequate.

Do not touch or walk through spilled material. Stop leak when safe to do so. See Exposure Controls/Personal Protection, Section 8, Disposal Considerations, Section 13.

For large spills and releases follow the handling and storage recommendations as detailed in NFPA 654, NFPA 499 and NFPA 77. Grounding, bonding, and intrinsic safety of equipment used should be considered.

**Environmental precautions** Prevent entry into water ways, sewers, basements or confined areas. Notify local authorities and National Response Center, if required.

## 7. Handling and storage

**Precautions for safe handling** Minimize dust generation during handling and contact. Dusts may become explosive when dispersed in a confined space such as a building or vessel and in the presence of oxygen and heat (spark).

This material may accumulate electrostatic charge which may cause an electrical spark (ignition source) in some cases. Ground and bond lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. When airborne dust or a dust cloud is present, do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards. Use non-sparking tools. Do not use electronic devices while handling, unless the device is certified as intrinsically safe as they could present ignition sources.

Facilities using this material should assess their potential for combustible dust and static spark hazards and follow applicable federal, state and local laws and regulations and accepted codes and standards. Avoid accumulation of dust on surfaces and hidden areas where dust may collect in the interior of buildings. Clean up dust using approved methods that do not generate dust clouds if ignition sources are present.

Combustible dust properties are dependent on the moisture content and particle size distribution of the tested material as received. Customers are encouraged to perform testing for explosibility potential for dust accumulated at their site. This data is provided in section 9 as an indicator of potential explosivity hazard.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

Avoid contact with strong oxidizers and reducers. Prevent small spills to minimize slip hazard or release to the environment. Materials should be handled, stored and shipped in a manner to prevent dust evolution. Do not cut, grind, drill, weld or reuse empty containers unless adequate precautions are taken.

Avoid personal contact with this material. Always observe good personal hygiene measures, such as removing contaminated clothing and protective equipment, washing after handling the material and before entering public areas. Restrict eating, drinking and smoking to designated areas to prevent personal chemical contamination. Routinely wash work clothing and protective equipment to remove contaminants. Do not breathe dust. See Section 8 of the SDS for Personal Protective Equipment.

**Conditions for safe storage, including any incompatibilities** Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers and reducers. Empty containers may contain material residue. Do not reuse without adequate precautions.

## 8. Exposure controls/personal protection

### Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** Use explosion-proof equipment if high dust/air concentrations are possible. Use only appropriately classified electrical equipment and powered industrial trucks. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Keep away from eyes and face. Contact can be avoided by using chemical safety glasses, goggles and/or face shield. Have eye washing facilities readily available where eye contact can occur.

<b>Skin protection</b>	
<b>Hand protection</b>	Avoid skin contact with this material. Use chemical resistant gloves when handling this material. Contact the glove manufacturer for specific advice on glove selection regarding permeability and breakthrough times for your use conditions. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
<b>Other</b>	Avoid skin contact with this material. Additional protective clothing may be necessary.
<b>Respiratory protection</b>	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. A NIOSH approved particulate respirator may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. See OSHA 29 CFR 1910.134 for more information regarding respiratory protection and Assigned Protection Factors (APFs).
<b>Thermal hazards</b>	No special precautions required.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Crystalline powder
<b>Color</b>	White (colorless)
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	3.3 at 25 °C
<b>Melting point/freezing point</b>	653 - 658.4 °F (345 - 348 °C) (Sublimes)
<b>Initial boiling point and boiling range</b>	Sublimes at standard atmospheric conditions
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not available
<b>Flammability (solid, gas)</b>	Non-flammable
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not applicable
<b>Explosive limit - upper (%)</b>	Not applicable
<b>Vapor pressure</b>	0.0000032 Pa at 25 °C
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.53 g/cm <sup>3</sup> at 25 °C
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	120.0 mg/l at 25 °C
<b>Partition coefficient (n-octanol/water)</b>	Log Kow (Pow) = 1.66 at 25 °C
<b>Auto-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not applicable
<b>Other information</b>	
<b>Chemical family</b>	Organic acid
<b>Dissociation constant</b>	3.6 pK <sub>1</sub> at 25 °C 4.6 pK <sub>2</sub> at 25 °C
<b>Dust explosion properties</b>	
<b>P<sub>max</sub></b>	7.7 barg
<b>K<sub>st</sub></b>	173 - 220 bar-m/s
<b>Limiting oxygen concentration (LOC)</b>	9 - 10 vol %
<b>Minimum explosible concentration (MEC)</b>	40 - 50 g/m <sup>3</sup>

<b>Minimum ignition energy (MIE) - dust cloud</b>	3 - 5 mJ
<b>Minimum ignition temperature (MIT) - dust cloud</b>	1076 - 1112 °F (580 - 600 °C)
<b>Minimum ignition temperature (MIT) - dust layer</b>	> 752 °F (> 400 °C)
<b>Granulometry</b>	< 50 microns (20 - 30% of sample) 26 - 342 microns (70 % of sample)
<b>Molecular formula</b>	C8H6O4
<b>Molecular weight</b>	166.13

## 10. Stability and reactivity

<b>Reactivity</b>	See statements below.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Not anticipated under normal conditions.
<b>Conditions to avoid</b>	Avoid dusting when handling and avoid all possible sources of ignition (spark or flame). Information on dust explosion hazard is given in Sections 5, 7, and 9.
<b>Incompatible materials</b>	Incompatible with oxidizing agents and strong bases. See precautions under Handling & Storage (Section 7).
<b>Hazardous decomposition products</b>	Not anticipated under normal conditions.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Likely route of exposure
<b>Skin contact</b>	Likely route of exposure
<b>Eye contact</b>	Likely route of exposure
<b>Ingestion</b>	Likely route of exposure

### Symptoms related to the physical, chemical and toxicological characteristics

**INHALATION:**  
Dusts may be irritating to the nose, throat and lungs (respiratory tract). Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure.

**SKIN:**  
Dusts may cause irritation due to abrasion.

**EYES:**  
Dusts may cause mechanical irritation including pain, tearing and redness. Effects may become more serious with repeated or prolonged contact.

**INGESTION:**  
Ingestion of large amounts may cause gastrointestinal disturbances.

### Information on toxicological effects

**Acute toxicity** Not classified.

<b>Components</b>	<b>Species</b>	<b>Test Results</b>
ISOPHTHALIC ACID (CAS 121-91-5)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 2000 mg/kg
<b>Inhalation</b>		
LC50	Rat	11370 mg/m <sup>3</sup> , 4 hr
<b>Oral</b>		
LD50	Rat	10900 mg/kg

<b>Skin corrosion/irritation</b>	Not classified.
<b>Serious eye damage/eye irritation</b>	Not classified.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not classified.
<b>Skin sensitization</b>	Not classified.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	Not classified.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not classified.
<b>Further information</b>	Not assigned.
<b>Toxicological data</b>	

ISOPHTHALIC ACID: Rats receiving a diet containing 3% isophthalic acid were observed to have urinary bladder and kidney calculi. Studies on similar materials suggest that urinary bladder tumors may occur that are secondary to chronic irritation caused by urolithiasis as a consequence of the precipitation of the substance in the urine at high dose levels, and are only seen where the limit of solubility in the urine is exceeded. Rats exposed to an isophthalic acid atmosphere of 10 mg/m<sup>3</sup> for 6 hours/day, 5 days/week for four weeks showed no signs of adverse treatment-related effects. Isophthalic acid is not considered to be genotoxic. It gave a variable response in the Ames mutagenicity assay which was independent of batch, purity and age. Findings from mammalian-cell mutation assays were negative. No significant adverse or teratogenic effects were observed in the offspring of pregnant laboratory animals exposed to isophthalic acid levels as high as 9 mg/m<sup>3</sup>.

**12. Ecological information**

**Ecotoxicity** Material not classified as harmful to aquatic organisms.

Components	Species	Test Results
ISOPHTHALIC ACID (CAS 121-91-5)		
<b>Aquatic</b>		
<i>Acute</i>		
Algae	EC50 Pseudokirchnerella subcapitata	> 996 mg/l, 96 hr
Crustacea	EC50 Daphnia magna	> 952 mg/l, 48 hr
Fish	LC50 Fish	> 907 mg/l, 96 hr
<i>Chronic</i>		
Crustacea	NOEC Daphnia magna	19.5 mg/l, 21 d

<b>Persistence and degradability</b>	This material is readily biodegradable and not persistent.
<b>Bioaccumulative potential</b>	Not likely to bioaccumulate in aquatic organisms.
<b>Mobility in soil</b>	May move through soil and reach groundwater.
<b>Other adverse effects</b>	No other adverse effects expected.

**13. Disposal considerations**

**Disposal instructions** The transportation, storage, treatment and disposal of waste material must be conducted in compliance with federal, state, and local regulations. Under RCRA it is the responsibility of the user of the material to determine, at the time of disposal, whether this material meets RCRA criteria for hazardous waste. For additional handling information and protection of employees, see Section 7 (Handling and Storage) and Section 8 (Exposure Controls/Personal Protection).

<b>Hazardous waste code</b>	The proper waste code must be evaluated at the time of disposal and should be determined by the user and waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of this material in accordance with all applicable local and national regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with government regulations. Packaging may contain residue that can be hazardous.

## 14. Transport information

<b>General information</b>	The below description may not cover shipping in all cases. Please consult 49 CFR 100-185 for specific shipping information or Transportation Compliance Specialist (CSO).  INTERNATIONAL TRANSPORTATION REQUIREMENTS: Not dangerous goods in the meaning of CTDG, ADR/RID, ADN, IMDG-Code, and ICAO/IATA-DGR.  U.S. DOT: Non-regulated
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not regulated by MARPOL.

## 15. Regulatory information

<b>US federal regulations</b>	All ingredients are on the active TSCA inventory, or are not required to be listed on the active TSCA inventory.  This material does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).  Check local, regional or state/provincial regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to comply may result in substantial civil and criminal penalties.
-------------------------------	--

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

### SARA 304 Emergency release notification

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes  
Classified hazard categories: Combustible dust

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

### US state regulations

#### California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



## 16. Other information, including date of preparation or last revision

**Issue date** 12-01-2018  
**Revision date** 12-01-2018  
**Version #** 07  
**HMIS® ratings** Health: 1  
Flammability: 0  
Physical hazard: 0

**NFPA ratings** Health: 1  
Flammability: 2  
Instability: 0

**Disclaimer** THIS SDS HAS BEEN PREPARED TO COMPLY WITH FEDERAL REGULATIONS THAT ARE INTENDED TO QUICKLY PROVIDE USEFUL INFORMATION TO THE USER(S) OF THIS MATERIAL OR PRODUCT - IT IS NOT INTENDED TO SERVE AS A COMPREHENSIVE DISCUSSION OF ALL POSSIBLE RISKS OF HAZARDS, BUT RATHER PROVIDES INFORMATION GENERALLY ACCEPTED IN THE SCIENTIFIC COMMUNITY AS RELEVANT REGARDING THE POTENTIAL HAZARDS OF THIS PRODUCT. ADEQUATE TRAINING, INSTRUCTION, WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. USERS SHOULD REVIEW THE INFORMATION IN THE SDS, AND SATISFY THEMSELVES AS TO ITS SUITABILITY AND COMPLETENESS, INCLUDING ENSURING THAT THIS IS THE MOST CURRENT SDS.

**Revision information** N/A  
**Completed by** INEOS Joliet, LLC