

1. Product and Company Identification

Material name	IOTHALAMIC ACID	
Version #	02	
Issue date	12-05-2014	
Revision date	12-05-2014	
Supersedes date	12-05-2014	
CAS #	2276-90-6	
Product use	Diagnostic imaging agent.	
Synonym(s)	5-Acetamido-2,4,6-triiodo-N-methylisophthalamic acid * Benzoic acid, 3-(acetylamino)-2,4,6-triiodo-5-[(methylamino)carbonyl]-	
Manufacturer information	Mallinckrodt 675 McDonnell Blvd. Hazelwood, MO 63042	
	Customer Service	888-744-1414
	24 Hour Emergency	314-654-1600
	Chemtec	800-424-9300
Item code	1083, 1183	

2. Hazards Identification

Emergency overview	WARNING Flammable Solid. Combustible. Exposure to powder or dusts may be irritating to eyes, nose and throat. Avoid prolonged contact with eyes, skin and clothing. Health injuries are not known or expected under normal use. Handle in accordance with good industrial hygiene and safety practice.
OSHA regulatory status	NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. This substance is not classified as dangerous according to Directive 67/548/EEC. This product is considered not hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Dust in the eyes will cause irritation. Health injuries are not known or expected under normal use.
Skin	Dust or powder may irritate the skin.
Inhalation	Inhalation of dusts may cause respiratory irritation. Dust may irritate respiratory system. Inhalation of dusts of this product may result in shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Dust may irritate throat and respiratory system and cause coughing.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause irritation. Do not ingest. Health injuries are not known or expected under normal use. Large quantities: Acute ingestion may result in mild gastrointestinal distress.
Chronic effects	None known.
Signs and symptoms	Dust or powder may irritate eye tissue. Inhalation of dusts may cause respiratory irritation. Coughing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
IOTHALAMIC ACID	2276-90-6	90 - 100

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
Skin contact	Flush skin thoroughly with water. Get medical attention if irritation develops and persists. Rinse skin with water/shower.
Inhalation	If dust from the material is inhaled, remove the affected person immediately to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Call a physician if symptoms develop or persist.
Ingestion	Get medical attention if any discomfort continues. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If ingestion of a large amount does occur, call a poison control center immediately.

Notes to physician

Not applicable.

General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire Fighting Measures

Flammable properties

Combustible by OSHA criteria. NFPA Rating Fire = 2. Materials that must be moderately heated or exposed to relative high ambient temperatures before ignition can occur. Dust may form explosive mixture with air. Heat may cause the containers to explode. Runoff to sewer may cause fire or explosion hazard. The product is not flammable. None known. As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. Not flammable by OSHA criteria. No unusual fire or explosion hazards noted.

Extinguishing media

Suitable extinguishing media	Water. Foam. Dry chemical powder. Alcohol foam. Carbon dioxide (CO ₂). Use any media suitable for the surrounding fires.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical None known.

Protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Not applicable. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Cool containers exposed to flames with water until well after the fire is out.

Specific methods	In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. The product is not flammable.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. No special environmental precautions required.
Methods for containment	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product.
Methods for cleaning up	Ventilate the contaminated area. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Cover with plastic sheet to prevent spreading. Small Dry Spills: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dust formation. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS. Use only non-sparking tools.
Other information	Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling	DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Avoid dust formation. Guard against dust accumulation of this material. Provide appropriate exhaust ventilation at places where dust is formed. All equipment used when handling the product must be grounded. Do not breathe dust from this material. Do not ingest. Avoid contact with skin and eyes. Do not use in areas without adequate ventilation. Use personal protective equipment as required. When using, do not eat, drink or smoke. Wash thoroughly after handling. Handle and open container with care. Practice good housekeeping. Avoid release to the environment. Avoid breathing dust. Avoid contact with eyes. Keep formation of airborne dusts to a minimum. In case of insufficient ventilation, wear suitable respiratory equipment.
Storage	The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep container tightly closed. Store in a well-ventilated place. Avoid dust formation. Guard against dust accumulation of this material. Use care in handling/storage. Store in accordance with local/regional/national/international regulation. Store in a cool, dry place.

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	No exposure standards allocated.
Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye / face protection

Use tight fitting goggles if dust is generated. Safety glasses. Provide eyewash station and safety shower. Safety glasses with side-shields.

Skin protection

Chemical resistant gloves. Wear appropriate chemical resistant clothing.

Respiratory protection

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. Wear respirator with dust filter. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Particulate air-purifying respirator approved for dust or oil mist is recommended.

General hygiene considerations

When using do not smoke. Do not breathe dust. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust.

9. Physical & Chemical Properties

Appearance	Powder.
Physical state	Solid.
Form	Powder.
Color	White
Odor	Odorless.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Boiling point	Not available.
Melting point/Freezing point	545 °F (285 °C)
Solubility (water)	Insoluble
Specific gravity	Not available.
Relative density	Not available.
Flash point	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Molecular weight	613.92
Molecular formula	C ₁₁ H ₉ I ₃ N ₂ O ₄
Other data	
Density	1.00 estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid spread of dust. Heat, flames and sparks. None known.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Nitrogen oxides (NO _x). Carbon oxides. Halogens.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Will not occur.

11. Toxicological Information

Sensitization	Not a skin sensitizer.
Local effects	Inhalation of dusts may cause respiratory irritation.

Chronic effects	Not expected to be hazardous by WHMIS criteria. Not expected to be hazardous by OSHA criteria.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
	Not listed.
Skin corrosion/irritation	Due to lack of data the classification is not possible.
Epidemiology	No epidemiological data is available for this product.
Mutagenicity	Due to lack of data the classification is not possible.
Reproductive effects	Due to lack of data the classification is not possible.
Further information	This product has no known adverse effect on human health. Health injuries are not known or expected under normal use. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects. Not expected to be harmful to aquatic organisms.
Environmental effects	Not classified as an environmental hazard.
Aquatic toxicity	Not available.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulation / accumulation	Not established.
Mobility in environmental media	Not established. The product is immiscible with water and will spread on the water surface.
Other adverse effects	Not established.

13. Disposal Considerations

Disposal instructions	Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of contents/container in accordance with local/regional/national/international regulations. When your own wastewater treatment plant is not available, collect entire waste and then charge to a licensed industrial waste management professional with manifests for industrial waste. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations	CERCLA/SARA Hazardous Substances - Not applicable.
	One or more components are not listed on TSCA. This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. TSCA exempt status.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

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

Not regulated.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

16. Labeling Info

Label Hazard Warning	Not applicable. Handle in accordance with good industrial hygiene and safety practice. Exposure to powder or dusts may be irritating to eyes, nose and throat.
Label Precautions	None known.
Label First Aid	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. Immediately flush skin with plenty of water. Get medical attention if irritation develops or persists. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention if irritation develops or persists. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

17. Other Information

NFPA ratings	Health: 0 Flammability: 0 Instability: 0
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This data sheet contains changes from the previous version in section(s):	Regulatory Information: United States