

Health 0

Flammability 1

Reactivity 0

IDENTIFICATION

Country of origin

Malaysia

Supplier
Jamorin International Limited
35 Berkeley Square, Mayfair, London, W1J 5BF, UK
Trade name

Purified Terephthalic Acid (PTA)

Chemical name

Purified Terephthalic Acid

Synonyms

Purified Terephthalic Acid

Use of the substance / preparation

Used in polyester manufacturing.

COMPOSITION / INFORMATION ON INGREDIENTS

General composition:

	CAS #	EC #	%
■ Purified Terephthalic	100-21-0	202-830-0	99.9 (wt.) min

HAZARDS IDENTIFICATION

Classification of the substance/preparation

Hazard class and category code.

Health	Environmental	Physical
Dust hazardous for health if inhaled	Aquatic Toxicity –Category- NA	Flammable – Category NA

NA: Not available.

GHS Category table for reference

Study/hazard statement	Category 1	Category 2	Category 3	Category 4	Category 5
Acute Oral LD50	≤ 5 mg/kg Fatal if swallowed	> 5 mg/kg ≤ 50 mg/kg Fatal if swallowed	> 50 mg/kg ≤ 300 mg/kg Toxic if swallowed	> 300 mg/kg ≤ 2000 mg/kg Harmful if swallowed	> 2000 mg/kg ≤ 5000 mg/kg May be harmful if swallowed
Acute Dermal LD50	≤ 50 mg/kg Fatal in contact with skin	> 50 mg/kg ≤ 200 mg/kg Fatal in contact with skin	> 200 mg/kg ≤ 1000 mg/kg Toxic in contact with skin	> 1000 mg/kg ≤ 2000 mg/kg Harmful in contact with skin	> 2000 mg/kg ≤ 5000 mg/kg May be harmful in contact with skin
Acute Inhalation					
Dust LC50	< 0.05 mg/L	> 0.05 mg/L ≤ 0.50 mg/L	> 0.50 mg/L ≤ 1.00 mg/L	> 1.00 mg/L ≤ 5.00 mg/L	See footnote below this table
Gases LC50	< 100 ppm/V	> 100 ppm/V ≤ 500 ppm/V	> 5 00 ppm/V ≤ 2 500 ppm/V	>2 500 ppm/V ≤ 20 000 ppm/V	
Vapours LC50	< 0.5 mg/L	> 0.5 mg/L ≤ 2.0 mg/L Fatal if inhaled	> 2.0 mg/L ≤ 10.0 mg/L Toxic if inhaled	> 10.0 mg/L ≤ 20.0 mg/L Harmful if inhaled	
Flammable liquids	Flash point < 23 °C and initial boiling point ≤ 35 °C. Extremely flammable liquid and vapour	Flash point < 23 °C and initial boiling point > 35 °C. Highly flammable liquid and vapour	Flash point ≥ 23°C ≤ 60 °C. Flammable liquid and vapour	Flash point > 60°C ≤ 93 °C. Combustible liquid	Not Applicable

NOTE: Gases concentration are expressed in parts per million per volume (ppmV).

NOTE 1: Category 5 is for mixtures which are of relatively low acute toxicity but which under certain circumstances may pose a hazard to vulnerable populations. These mixtures are anticipated to have an oral or dermal LD50 value in the range of 2000-5000 mg/kg bodyweight or equivalent dose for other routes of exposure. In light of animal welfare considerations, testing in animals in Category 5 ranges is discouraged and should only be considered when there is a strong likelihood that results of such testing would have a direct relevance for protecting human health.

NOTE 2: These values are designed to be used in the calculation of the ATE for classification of a mixture based on its ingredients and do not represent test results. The values are conservatively set at the lower end of the range of Categories 1 and 2 and at a point approximately 1/10th from the lower end of the range for Categories 3-5.



GHS Category table for reference: Continued

Study/hazard statement	Category 1	Category 2	Category 3
Eye Irritation	Effects on the cornea, iris or conjunctiva that are not expected to reverse or that have not fully reversed within 21 days. Causes severe eye damage.	2A: Effects on the cornea, iris or conjunctiva that fully reverse within 21 days. Causes severe eye irritation. 2B: Effects on the cornea, iris or conjunctiva that fully reverse within 7 days. Causes eye irritation.	Not applicable
Skin Irritation	Destruction of skin tissue, with sub categorization based on exposure of up to 3 minutes (A), 1 hour (B), or 4 hours (C). Causes severe skin burns and eye damage.	Mean value of $\geq 2.3 > 4.0$ for erythema/eschar or edema in at least 2 of 3 tested animals from gradings at 24, 48, and 72 hours (or on 3 consecutive days after onset if reactions are delayed); inflammation that persists to end of the (normally 14-day) observation period. Causes skin irritation.	Mean value of $\geq 1.5 < 2.3$ for erythema/eschar or edema in at least 2 of 3 tested animals from gradings at 24, 48, and 72 hours (or on 3 consecutive days after onset if reactions are delayed). Causes mild skin irritation.
Environment: Acute Toxicity Category	96 hours LC50 (fish) < 1 mg/L 48 hours EC50 (crustacea) < 1 mg/L 72/96 hours ErC50 (aquatic plants) < 1 mg/L Very toxic to aquatic life	96 hours LC50 (fish) $> 1 \leq 10$ mg/L 48 hours EC50 (crustacea) $> 1 \leq 10$ mg/L 72/96 hours ErC50 (aquatic plants) $> 1 \leq 10$ mg/L Toxic to aquatic life	96 hours LC50 (fish) $> 10 \leq 100$ mg/L 48 hours EC50 (crustacea) $> 10 \leq 100$ mg/L 72/96 hours ErC50 (aquatic plants) $> 10 \leq 100$ mg/L Harmful to aquatic life
Flammable Aerosol	Extremely flammable aerosol	Flammable aerosol	Not Applicable
Flammable solids	Using the burning rate test, substances or mixtures other than metal powders: (a) wetted zone does not stop fire and (b) burning time < 45 s or burning rate > 2.2 mm/s. Using the burning rate test, metal powders that have burning time ≤ 5 minutes Flammable solid	Using the burning rate test, substances or mixtures other than metal powders: (a) wetted zone does not stop fire for at least 4 minutes and (b) burning time < 45 s or burning rate > 2.2 mm/s. Using the burning rate test, metal powders that have burning time $> 5 \leq 10$ minutes Flammable solid	Not Applicable
Flammable gases	Gases, which at 20 °C and standard pressure of 101.3 kPa: (a) are ignitable when in a mixture of 13% or less by volume in air; or (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit. Extremely flammable gas	Gases, other than those of category 1, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air. Flammable gas	Not Applicable

GHS Label

GHS07 Warning.

Details of above statements:

Hazard Statements	Dust harmful for health if inhaled. Dust explosion may take place-Static charge generation possible
Precautionary Statement Prevention	Take precautionary measures against static discharges
Precautionary Statement Response	Take precautionary measures against static discharges
Precautionary Statement Storage	Take precautionary measures against static discharges
Precautionary Statement Disposal	No Statement

Information pertaining to particular dangers for human

Dust is irritating to eyes, skin and respiratory organs.

Information pertaining to particular dangers for the environment

NA

Other adverse effects

Possibility of dust explosion if more dust is generated.

Hazard ratings

- Health0
- Flammability..... 1
- Reactivity.....0

NOTE: 0 – No Hazard, 1 – Slight Hazard, 2 – Moderate Hazard, 3 – Serious Hazard, 4 – Severe Hazard

Route of entry

- Skin Contact Yes
- Skin Absorption Y
- Eye Contact..... Yes
- Inhalation Yes (Dust)
- Ingestion..... Yes

FIRST AID MEASURES**General**

IMMEDIATE MEDICAL ATTENTION IS REQUIRED AFTER INHALATION OR AFTER SWALLOWING.

In case of health troubles or doubts, seek medical advice immediately and show this Material Safety Data Sheet.

Contact with the skin

In case of contact, immediately wash skin with soap and copious amounts of water.

Contact with the eyes

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious

amounts of water. Assure adequate flushing of the eyes by separating the eyelids with fingers.

Swallowing

If patient is conscious and without convulsion, immediately try to induce vomiting. Never give anything by mouth to an unconscious person, just put patient into a stabilised position. Seek medical advice immediately.

SYMPTOMS AND EFFECTS: nausea, vomiting, convulsions, irregular heartbeat.

Inhalation

If dust inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

FIRE FIGHTING MEASURES**Suitable extinguishing media**

Foam, powder, CO₂. Cool containers with water spray.

Extinguishing media to be avoided

Water.

Caution about specific danger in case of fire and fire-fighting procedures

Dust may travel considerable far distances and cause subsequent ignition. When burning, it emits carbon monoxide, carbon dioxide and irritant fumes.

Special protective equipment for fire-fighters

Wear full protective fire-resistant clothing and self-contained breathing apparatus.

ACCIDENTAL RELEASE MEASURES**Person-related safety precautions**

Isolate hazard area. Evacuate all unauthorized personnel not participating in rescue operations from the area. Avoid entry into danger area.

Precautions for protection of the environment

Prevent from further spill of substance.

Recommended methods for cleaning and disposal

Dispose off under valid legal waste regulations.

HANDLING AND STORAGE**Information for safe handling**

Take precautionary measures against static discharges. Wear recommended personal protective equipment and observe instructions to prevent possible contact of substance with skin and eyes and inhalation. Avoid spill to environment. Dust explosion may take place, avoid dust generation.

Information for storage

Store in cool, well-ventilated place with effective exhaust, away from heat and all sources of ignition. Store in tightly closed container.

Information for specific use

Not applicable.



EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits:

- **Material**..... Purified Terephthalic Acid
- **Source**..... US
- **Type**..... TWA
- **ppm**..... NA
- **mg/m³**..... 10
- **Notation**Dust

NOTE: US – INCA International S.P.A Milan;
NA – Data not available.

Occupational exposure controls

Collective protection measures: General and local ventilation, effective exhaust Individual protection measures: Personal protective equipment (PPE) for the protection of eyes, hands and skin corresponding with the performed labor has to be kept at disposition for the employees. In the case of continuous use of this equipment during constant work, safety breaks have to be scheduled, if the PPE-character requires this. All PPE have to be kept in disposable state and the damaged or contaminated equipment has to be replaced immediately.

Recommended personal protective equipment (PPE):

- **Respiratory protection:** If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-face piece respirator, airline hood, or full face piece self- contained breathing apparatus.
- **Eye protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.
- **Hand protection:** Wear glove of impervious material.
- **Body protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
- **Hygiene Measures:** Wash hands, forearms and face thoroughly after handling. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

Proceed in accordance with valid air and water legislative regulations.

Engineering measures: Use only with adequate ventilation. If user operations generate dust, fumes, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended limits. The engineering controls also need to keep vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**.....Colorless solid
- **Odor**.....Odorless
- **Solubility in water**.....Insoluble
- **Relative Density (20 °C, H₂O =1)**..... 1.51
- **Melting Point (Sublimates)**300 °C
- **Relative Vapour Density (Air = 1)** NA
- **Flash Point**.....260 °C
- **Auto ignition**496 °C
- **Vapour pressure (20 °C)** 0-134633 hPa
- **Explosive limits in air % by volume**..... NA
- **pH**..... NA
- **Viscosity** NA
- **Pour point**..... NA
- **Evaporation rate (H₂O =1)**..... NA
- **Octanol / water partition coefficient**
log Kow 1.16
- **% volatile**..... NA

STABILITY AND REACTIVITY

Conditions to avoid

Heat or fire, Dust generation.

Material to avoid

Oxidizers

Hazardous decomposition products

Thermal decomposition generates carbon monoxide and carbon dioxide.

Polymerization:

NA

TOXICOLOGICAL INFORMATION

Acute effects

Acute toxicity data: NA

Repeated dose toxicity

Choursonic effects cause irritation by dust.

Sensitisation

Dust may cause skin irritation.

CMR effects (carcinogenity, mutagenicity, toxicity for reproduction)

Not a carcinogen.

Toxicokinetics, metabolism, distribution

NA

ECOLOGICAL INFORMATION

Eco toxicity data

NA

Persistence and degradability

Substance is biodegradable.

Bio accumulative potential:

NA



Results of PBT assessment Persistence and Degradation
NA

Other adverse effects

Environmental Fate: NA.

DISPOSAL CONSIDERATION

Local Legislation

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

This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

Recommended disposal methods for the substance / preparation

Product reuse or disposal in accordance with valid waste legislative regulations.

Recommended disposal methods for contaminated packaging

Product is transport in vehicle.

Waste management measures that control exposure of humans and environment

Proceed in accordance with valid health, air and water legislative regulations.

Waste regulation

Follow local regulations.

TRANSPORT INFORMATION

International Transport Regulation
ADR/RID (Road/Rail), IMDG (Sea) and ICAO/IATA (Air)

The product is not regulated

Proper Shipping Name Not classified

Hazard Class Not classified

UN Number Not classified

Special transport precautionary measures

NA

DISCLAIMER "It is in good faith that we offer suggestions on the use of our products and these are based on knowledge we believe are correct and dependable. However, these are with no guarantee as process and conditions in the use of our products may vary and are beyond our control. We strongly recommend that users of our products verify the appropriateness of our suggestions before using them on a commercial scale".

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