

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: **THALLIUM ACID PHTHALATE**

Article code: TIAP

Registration number:

The registration number is not available, since the substance/mixture or its use is excluded from registration according to article 2 of the REACH Regulation (EC) No. 1907/2006, the annual tonnage does not require a registration or the registration is planned for a later date.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Application of the substance / the mixture: X-rays monochromator crystal.

Uses advised against: Other uses than the identified uses indicated above.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Saint-Gobain Cristaux & Détecteurs

104, Route de Larchant

F-77140 Saint-Pierre-Les-Nemours

Telephone: 0033 (0) 1 64 45 10 10

Fax: 0033 (0) 1 64 45 10 01

Further information obtainable from: customer.service.SGCD@saint-gobain.com

1.4. Emergency telephone number

Centre anti poison et de toxicovigilance (Intoxication centre)

Phone: Paris: +33 (0) 1 40 05 48 48, Marseille: +33 (0) 1 91 75 25 25

* SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:



GHS06 skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 2 H330 Fatal if inhaled.

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GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms:



GHS06 GHS08 GHS09

Signal word: Danger

Hazard statements:

H300+H330 Fatal if swallowed or if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P284 [In case of inadequate ventilation] wear respiratory protection.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P273	Avoid release to the environment.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362	Take off contaminated clothing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P391	Collect spillage.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

Results of PBT and vPvB assessment: This substance does not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.1. Substances

CAS No. Description

Thallium acid phthalate (100%), uncoloured crystal

Identification number(s): -

* SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

Personal protection for the First Aider.

Do not leave affected persons unattended.

After inhalation:

Call a doctor immediately.

Supply fresh air.

In case of breathing difficulties administer oxygen.

In case of irregular breathing or respiratory arrest provide artificial respiration.

Do not use mouth to mouth or mouth to nose resuscitation.

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Use a respiratory bag or breathing device.

After skin contact:

Take off all contaminated clothing.

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact:

Protect unharmed eye.

Rinse opened eye for several minutes under running water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Seek immediate medical advice.

After swallowing:

Rinse out mouth and then drink plenty of water.

Induce vomiting only, if affected person is fully conscious.

Call for a doctor immediately.

A person vomiting while laying on their back should be turned onto their side.

4.2. Most important symptoms and effects, both acute and delayed

Irritating effect

Erythema (reddening)

Inflammation of the skin

Headache

Breathing difficulty

Coughing

Cardiovascular disorders

Depression of the central nervous system

Gastric or intestinal disorders

Impaired vision

Tiredness

Hair loss

Anorexia

Hazards:

Danger of gastric perforation.

Danger of disturbed cardiac rhythm.

Fatal if swallowed.

Fatal if inhaled.

4.3. Indication of any immediate medical attention and special treatment needed

First Aid, decontamination, treatment of symptoms.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing agents:

Foam

Fire-extinguishing powder

Carbon dioxide (CO₂)

Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2. Special hazards arising from the substance or mixture

The product is non flammable.

In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Metal oxide fume

5.3. Advice for firefighters

Protective equipment:

Do not inhale explosion gases or combustion gases.

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information:

Move undamaged containers from immediate hazard area if it can be done safely.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not inhale dust / smoke / mist.

Mount respiratory protective device.

Avoid any contact with eyes or skin.

Wear protective equipment. Keep unprotected persons away.

Remove persons from danger area.

Avoid formation of dust.

Ensure adequate ventilation.

6.2. Environmental precautions

Do not allow product to reach sewage system or any water course.

Dumping into the environment must be prevented.

Do not allow to penetrate the ground/soil.

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Keep contaminated washing water and dispose of appropriately.
Inform respective authorities in case of seepage into water course or sewage system.

6.3. Methods and material for containment and cleaning up
Remove mechanically, placing in appropriate containers for disposal.
Use approved industrial vacuum cleaner for removal.
Ensure adequate ventilation.
Dispose of the material collected according to regulations.

6.4. Reference to other sections
See section 1 for emergency contact details.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid any contact with skin and eyes.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear personal protective equipment. See section 8.
Prevent formation of dust.
Provide adequate ventilation as well as local exhaust at critical locations.

Information about fire - and explosion protection:
The product is not flammable.
Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles:
Access is only to be granted to authorised personal.
Store only in the original container.

Information about storage in one common storage facility:
Keep away from food, drink and animal feeding stuffs.
Do not store together with oxidising and acidic materials.

Further information about storage conditions:
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Protect from humidity and water.
Keep the packaging dry and well sealed to prevent contamination and adsorption of dampness.
Store under lock and key and with access restricted to technical experts or their assistants only.

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Ensure that local, federal and national legislation on storage conditions are observed.

Storage class: 6.1B Incombustible acute toxic substances

7.3. Specific end use(s) See section 1.

* SECTION 8: Exposure controls/personal protection

Additional information about design of technical facilities:

Technical measures and the application of adequate working methods take priority over the use of personal protection equipment.

8.1. Control parameters

Ingredients with limit values that require monitoring at the workplace:	
thallium compounds, with the exception of those specified elsewhere in CLP Annex	
WEL (Great Britain)	Long-term value: 0.1 mg/m ³ Sk; as TI

Additional information: The lists valid during the making were used as basis.

8.2. Exposure controls

Personal protective equipment:

General protective and hygienic measures:

Do not inhale dust / smoke / mist.

Ensure that washing facilities are available at the work place.

Wash hands before breaks and at the end of work.

Do not eat, drink, smoke or sniff while working.

Immediately remove all soiled and contaminated clothing.

Store protective clothing separately.

Respiratory protection:

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, a self-contained breathing apparatus must be used!

Suitable respiratory protective equipment:

Half-mask (EN 140) with filter P2 or P3 (EN 149)

Protection of hands:

Tested protective gloves are to be worn. When handling chemical substances, chemical protective gloves must be worn with CE label including a four digit code. Type of chemical protective gloves to choose depends on the concentration and quantity of dangerous substances as well as on work place specifications. In the cases of special

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applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves:

Recommendation:

Nitrile rubber, NBR

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.35 mm

Penetration time: > 480 min

(EN 374)

Penetration time of glove material:

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Tightly sealed goggles

(EN 166)

Body protection:

Protective work clothing

Boots

Limitation and supervision of exposure into the environment: Dumping into the environment must be prevented.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Information

Appearance:

Form:	Solid Crystalline
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	210 °C
Boiling point/Boiling range:	Undetermined.

Flash point: Not applicable.

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Flammability (solid, gaseous):	Product is not flammable.
Ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Not explosive.
Vapour pressure:	Not determined.
Density at 25 °C:	2.85 g/cm ³
Vapour density:	Not applicable.
Evaporation rate:	Not applicable.
Solubility in / Miscibility with water at 20 °C:	60 g/l
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
9.2. Other information	No further relevant information available.

SECTION 10: Stability and reactivity

10.1. Reactivity The product is stable under standard conditions (temperature, pressure) of storage and handling.

10.2. Chemical stability

The product is stable under standard conditions (temperature, pressure) of storage and handling.

10.3. Possibility of hazardous reactions No dangerous reactions known.

10.4. Conditions to avoid

Avoid generation of dust.
Protect from direct sunlight.
Heat

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Water/ moisture

10.5. Incompatible materials

Acids

Oxidizing agents

10.6. Hazardous decomposition products

Danger of forming toxic pyrolysis products.

In case of fire, the following products can be released:

Carbon monoxide (CO)

Carbon dioxide (CO₂)

Toxic metal oxide smoke

* **SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity:

Fatal if swallowed or if inhaled.

LD/LC50 values: No information available.

Primary irritant effect:

Skin corrosion/irritation:

Causes skin irritation.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Repeated dose toxicity: May cause damage to organs through prolonged or repeated exposure.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure:

May cause respiratory irritation.

STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Based on available data, the classification criteria are not met.

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* SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity: Toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability No further relevant information available.

12.3. Bioaccumulative potential No indication of bio-accumulation potential.

12.4. Mobility in soil No further relevant information available.

General notes:

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even small quantities leak into the ground.

12.5. Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6. Other adverse effects No further relevant information available.

* SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recommendation:

Must be specially treated adhering to official regulations.

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Waste disposal according to official state regulations.

Hand over to officially registered waste disposal company.

Uncleaned packaging:

Recommendation:

Dispose of packaging according to regulations on the disposal of packagings.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

* SECTION 14: Transport information

14.1. UN-Number

ADR, IMDG, IATA

UN1707

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14.2. UN proper shipping name
ADR 1707 THALLIUM COMPOUND, N.O.S. (Thallium acid phthalate), ENVIRONMENTALLY HAZARDOUS
IMDG, IATA THALLIUM COMPOUND, N.O.S.

14.3. Transport hazard class(es)

ADR, IMDG, IATA
Class 6.1 Toxic substances.
Label 6.1

14.4. Packing group

ADR, IMDG, IATA II

14.5. Environmental hazards

Marine pollutant: No
Special marking (ADR): Symbol (fish and tree)

14.6. Special precautions for user

Danger code (Kemler): 60
EMS Number: F-A,S-A
Stowage Category A

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

Transport/Additional information:

ADR
Limited quantities (LQ) 500 g
Excepted quantities (EQ) Code: E4
Maximum net quantity per inner packaging: 1 g
Maximum net quantity per outer packaging: 500 g
Transport category 2
Tunnel restriction code D/E

UN "Model Regulation":

UN 1707 THALLIUM COMPOUND, N.O.S. (THALLIUM ACID PHTHALATE), 6.1, II, ENVIRONMENTALLY HAZARDOUS

* SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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EU-Regulations

Regulation (EC) No 1907/2006 (REACH)

Regulation (EC) No 1272/2008 (CLP)

Regulation 98/24/EC (employee health protection)

Labelling according to Regulation (EC) No 1272/2008: GHS label elements

National regulations:

Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Employment restrictions concerning women of child-bearing age must be observed.

Other regulations, limitations and prohibitive regulations: National legislation has to be observed!

15.2. Chemical safety assessment A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Training hints:

The product should only be handled by persons, who were informed sufficiently about the nature of the product and about the necessary safety precautions.

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 2: Acute toxicity – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

* Data compared to the previous version altered.