

1 Identification

Product identifier

Product name: Thallium (I) carbonate

Stock number: 11840

CAS Number:

6533-73-9

EC number:

229-434-0

Index number:

081-002-00-9

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

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 2 H300 Fatal if swallowed.

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 Health hazard

STOT RE 2 H373 May cause damage to the kidneys, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms



GHS06 GHS08

Signal word

Danger

Hazard statements

H300+H330 Fatal if swallowed or if inhaled.

H373 May cause damage to the kidneys, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

Precautionary statements

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

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1A - Very toxic material causing immediate and serious toxic effects



Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH 3 Health (acute effects) = 3

FIRE 0 Flammability = 0

REACTIVITY 1 Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

6533-73-9 Thallium (I) carbonate

Identification number(s):

EC number: 229-434-0

Index number: 081-002-00-9

Product name: **Thallium (I) carbonate**

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4 First-aid measures

Description of first aid measures
General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing Do not induce vomiting; immediately call for medical help.
Information for doctor
Most important symptoms and effects, both acute and delayed No further relevant information available.
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Toxic metal oxide fume
Carbon monoxide and carbon dioxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Prevention of secondary hazards: No special measures required.
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.
Information about protection against explosions and fires: The product is not flammable
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: No information known.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:

Thallium and soluble thallium compounds (as Tl)	
	mg/m3
ACGIH TLV	0.1 (skin)
Austria MAK	0.1
Belgium TWA	0.1 (skin)
Denmark TWA	0.1 (skin)
Finland TWA	0.1 (skin)
France VME	0.1
Germany MAK	0.1
Ireland TWA	0.1 (skin)
Korea TLV	0.1 (skin)
Netherlands MAC-TGG	0.1 (skin)
Norway TWA	0.1
Poland TWA	0.1; 0.3-STEL
Switzerland MAK-W	0.1 (skin)
United Kingdom LTEL	0.1 (skin)
USA PEL	0.1 (skin)

6533-73-9 Thallium (I) carbonate (100.0%)

PEL (USA)	Long-term value: 0.1 mg/m³ as Tl; Skin
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Product name: Thallium (I) carbonate			(Contd. of page 2)
REL (USA)	Long-term value: 0.1 mg/m³ as Tl; Skin		
TLV (USA)	Long-term value: 0.02* mg/m³ as Tl; *inhalable fraction; Skin		
Additional information: No data			
Exposure controls			
Personal protective equipment			
General protective and hygienic measures			
The usual precautionary measures for handling chemicals should be followed.			
Keep away from foodstuffs, beverages and feed.			
Remove all soiled and contaminated clothing immediately.			
Wash hands before breaks and at the end of work.			
Store protective clothing separately.			
Maintain an ergonomically appropriate working environment.			
Breathing equipment: Use self-contained respiratory protective device in emergency situations.			
Protection of hands:			
Impervious gloves			
Check protective gloves prior to each use for their proper condition.			
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.			
Eye protection: Safety glasses			
Body protection: Protective work clothing.			
9 Physical and chemical properties			
Information on basic physical and chemical properties			
General Information			
Appearance:			
Form: Powder			
Color: White			
Odor: Not determined			
Odor threshold: Not determined.			
pH-value: Not applicable.			
Change in condition			
Melting point/Melting range: 273 °C (523 °F)			
Boiling point/Boiling range: Not determined			
Sublimation temperature / start: Not determined			
Flash point: Not applicable			
Flammability (solid, gaseous) Not determined.			
Ignition temperature: Not determined			
Decomposition temperature: Not determined			
Auto igniting: Not determined.			
Danger of explosion: Product does not present an explosion hazard.			
Explosion limits:			
Lower: Not determined			
Upper: Not determined			
Vapor pressure: Not applicable.			
Density at 20 °C (68 °F): 7.11 g/cm³ (59.333 lbs/gal)			
Relative density Not determined.			
Vapor density Not applicable.			
Evaporation rate Not applicable.			
Solubility in / Miscibility with			
Water at 100 °C (212 °F): 272 g/l			
Partition coefficient (n-octanol/water): Not determined.			
Viscosity:			
dynamic: Not applicable.			
kinematic: Not applicable.			
Other information No further relevant information available.			
10 Stability and reactivity			
Reactivity No information known.			
Chemical stability Stable under recommended storage conditions.			
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.			
Possibility of hazardous reactions No dangerous reactions known			
Conditions to avoid No further relevant information available.			
Incompatible materials:			
Oxidizing agents			
No information known.			
Hazardous decomposition products:			
Toxic metal oxide fume			
Carbon monoxide and carbon dioxide			
11 Toxicological information			
Information on toxicological effects			
Acute toxicity:			
Fatal if inhaled.			
Fatal if swallowed.			
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.			
LD/LC50 values that are relevant for classification:			
Oral	LD50	21 mg/kg (mouse)	
		23 mg/kg (rat)	
Dermal	LD50	117 mg/kg (rat)	
Skin irritation or corrosion: Irritant to skin and mucous membranes.			
Eye irritation or corrosion: Irritating effect.			
Sensitization: No sensitizing effects known.			
Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.			
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.			
Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.			
			(Contd. on page 4) USA

Product name: **Thallium (I) carbonate**

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Specific target organ system toxicity - repeated exposure:
May cause damage to the kidneys, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Other information (about experimental toxicology): Reproductive effects have been observed on tests with laboratory animals.
Subacute to chronic toxicity:
The main symptoms of thallium poisoning are peripheral neuropathy and loss of hair. Acute poisoning causes paresthesias, ataxia, alopecia, fever, coryza, abdominal pain, nausea and vomiting. Symptoms may progress to lethargy, speech disorders, tremors, convulsions, cyanosis, pulmonary edema, bronchopneumonia and death. Kidney, liver and brain damage can occur. Thallium poisoning during the first trimester of pregnancy can cause skeletal deformities, alopecia, low birth weight and premature birth. Chronic thallium poisoning may produce alopecia, salivation and a blue line on the gums. Damage to the gastrointestinal, endocrine system and kidneys may also occur.
Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Ecotoxicological effects:
Remark: Toxic for aquatic organisms
Additional ecological information:
General notes:
Do not allow material to be released to the environment without proper governmental permits.
Toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic to aquatic life.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number DOT, IMDG, IATA	UN1707
UN proper shipping name DOT IMDG, IATA	Thallium compounds, n.o.s. (thallium (I) carbonate) THALLIUM COMPOUND, N.O.S. (thallium (I) carbonate)
Transport hazard class(es) DOT	
	
Class Label Class Label IMDG, IATA	6.1 Toxic substances. 6.1 6.1 (T5) Toxic substances 6.1
	
Class Label	6.1 Toxic substances. 6.1
Packing group DOT, IMDG, IATA	II
Environmental hazards:	Environmentally hazardous substance, solid
Special precautions for user	Warning: Toxic substances
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT Marine Pollutant (DOT):	No
UN "Model Regulation":	UN1707, Thallium compounds, n.o.s. (thallium (I) carbonate), 6.1, II

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

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USA

Product name: Thallium (I) carbonate

Hazard pictograms



GHS06 GHS08

Signal word *Danger*

Hazard statements

H300+H330 *Fatal if swallowed or if inhaled.*

H373 *May cause damage to the kidneys, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.*

Precautionary statements

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

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

P301+P310 *IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...*

P320 *Specific treatment is urgent (see on this label).*

P405 *Store locked up.*

P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

SARA Section 313 (specific toxic chemical listings)

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California Proposition 65

Prop 65 - Chemicals known to cause cancer *Substance is not listed.*

Prop 65 - Developmental toxicity *Substance is not listed.*

Prop 65 - Developmental toxicity, female *Substance is not listed.*

Prop 65 - Developmental toxicity, male *Substance is not listed.*

Information about limitation of use:

For use only by technically qualified individuals.

This product contains thallium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. *Substance is not listed.*

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) *Substance is not listed.*

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

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Date of preparation / last revision 11/23/2015 / -

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

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)