

# Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 08.09.2006

Printing date 01.07.2013

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Trade name

**Thallium (I) 2,4-pentanedionate**

Stock number:

78113

CAS Number:

25955-51-5

Index number:

081-002-00-9

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

Identified use:

SU24 Scientific research and development

**1.3 Details of the supplier of the safety data sheet**

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
 A Johnson Matthey Company  
 Zeppelinstr. 7b  
 76185 Karlsruhe / Germany  
 Tel: +49 (0) 721 84007 280  
 Fax: +49 (0) 721 84007 300  
 Email: tech@alfa.com  
 www.alfa.com  
 Product safety Tel + +049 (0) 7275 988687-0  
 Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
 Poison Information Center Mainz  
 www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

Informing department:

1.4 Emergency telephone number:

**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.



GHS08 health hazard

STOT RE 2 H373 May cause damage to the blood tissue through prolonged or repeated exposure. Route of exposure: Oral.



GHS09 environment

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

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



T+; Very toxic

R26/28: Very toxic by inhalation and if swallowed.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R33: Danger of cumulative effects.

Information concerning particular hazards for human and environment:

Not applicable

Other hazards that do not result in classification

No information known.

**2.2 Label elements**

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Hazard statements

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

GHS06, GHS08, GHS09

Danger

H300 Fatal if swallowed.

H330 Fatal if inhaled.

H373 May cause damage to the blood tissue through prolonged or repeated exposure. Route of exposure:

Oral.

H411 Toxic to aquatic life with long lasting effects.

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

P284 Wear respiratory protection.

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

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.

Precautionary statements

**2.3 Other hazards**

Results of PBT and vPvB assessment

PBT:

Not applicable.

vPvB:

Not applicable.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

CAS# Designation:

25955-51-5 Thallium (I) 2,4-pentanedionate

Identification number(s):

081-002-00-9

Index number:

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General information

Instantly remove any clothing soiled by the product.  
 Remove breathing apparatus only after soiled clothing has been completely removed.

After inhalation

In case of irregular breathing or respiratory arrest provide artificial respiration.  
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.  
 Instantly wash with water and soap and rinse thoroughly.

After eye contact

Seek immediate medical advice.  
 Rinse opened eye for several minutes under running water. Then consult doctor.  
 Do not induce vomiting; instantly call for medical help.

After swallowing

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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Trade name **Thallium (I) 2,4-pentanedionate**

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents****5.2 Special hazards arising from the substance or mixture**CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Toxic metal oxide smoke

**5.3 Advice for firefighters****Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**6.2 Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or water bodies.

Do not allow to enter the ground/soil.

**6.3 Methods and material for containment and cleaning up:**

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

No special measures required.

**Prevention of secondary hazards:****6.4 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 information on disposal.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Open and handle container with care.

**Information about protection against explosions and fires:**

Formation of poisonous gases during heating or in fires.

**7.2 Conditions for safe storage, including any incompatibilities****Storage****Requirements to be met by storerooms and containers:**

No special requirements.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Keep away from heat and direct sunlight.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Store in a locked cabinet or with access restricted to technical experts or their assistants.

**7.3 Specific end use(s)**

No further relevant information available.

**SECTION 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.

**8.1 Control parameters****Components with critical values that require monitoring at the workplace:**Thallium and soluble thallium compounds (as Tl)  
mg/m<sup>3</sup>

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)

**25955-51-5 Thallium (I) 2,4-pentanedionate (100,0%)**

MAK (Germany) vgl. Abschn. IIb

**Additional information:**

No data

**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the 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:**

Check protective gloves prior to each use for their proper condition.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Impervious gloves

**Material of gloves**

Not determined

**Penetration time of glove material****Eye protection:**

Safety glasses

**Body protection:**

Protective work clothing.

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**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance:**

<b>Form:</b>	Crystalline powder
<b>Colour:</b>	Silvery-white
<b>Smell:</b>	Not determined
<b>Odour threshold:</b>	Not determined.

<b>pH-value:</b>	Not applicable.
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**Change in condition**

<b>Melting point/Melting range:</b>	134 °C
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined

<b>Flash point:</b>	Not applicable
<b>Inflammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Self-inflammability:</b>	Not determined.

<b>Danger of explosion:</b>	Product is not explosive.
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**Critical values for explosion:**

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Steam pressure:</b>	Not applicable.
<b>Density</b>	Not determined
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	

<b>Water:</b>	Not determined
<b>Partition coefficient (n-octanol/water):</b>	Not determined.

<b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.

<b>9.2 Other information</b>	No further relevant information available.
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**SECTION 10: Stability and reactivity****10.1 Reactivity**

No information known.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**

No dangerous reactions known

**10.5 Incompatible materials:**

Oxidizing agents

**10.6 Hazardous decomposition products:**Carbon monoxide and carbon dioxide  
Toxic metal oxide smoke**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity:**Fatal if inhaled.  
Fatal if swallowed.**LD/LC50 values that are relevant for classification:**

No data

**Skin irritation or corrosion:**

Irritant for skin and mucous membranes.

**Eye irritation or corrosion:**

Irritant effect.

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

No effects known.

**Carcinogenicity:**

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**Reproductive toxicity:**

No effects known.

**Specific target organ system toxicity - repeated exposure:**

May cause damage to the blood tissue through prolonged or repeated exposure. Route of exposure: Oral.

**Specific target organ system toxicity - single exposure:**

No effects known.

**Aspiration hazard:**

No effects known.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

No further relevant information available.

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

No further relevant information available.

**Ecotoxicity effects:****Remark:**

Toxic for fish

**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.  
Toxic for aquatic organisms  
Water danger class 3 (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into soil.  
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.

**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**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.

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Uncleaned packagings:  
Recommendation:

Consult state, local or national regulations for proper disposal.  
Disposal must be made according to official regulations.

**SECTION 14: Transport information**

UN-Number ADR, IMDG, IATA	UN1707
14.2 UN proper shipping name ADR IMDG, IATA	1707 THALLIUM COMPOUNDS, N.O.S. (Thallium (I) 2,4-pentanedionate) THALLIUM COMPOUNDS, N.O.S. (Thallium (I) 2,4-pentanedionate)
14.3 Transport hazard class(es) ADR 	
Class Label IMDG, IATA 	6.1 (T5) Toxic substances. 6.1
Class Label	6.1 Toxic substances. 6.1
Packing group ADR, IMDG, IATA	II
14.5 Environmental hazards:	Environmentally hazardous substance, solid
14.6 Special precautions for user Kemler Number:	Warning: Toxic substances. 60
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
ADR Excepted quantities (EQ): Limited quantities (LQ) Transport category Tunnel restriction code	E4 500 g 2 D/E
UN "Model Regulation":	UN1707, THALLIUM COMPOUNDS, N.O.S. (Thallium (I) 2,4-pentanedionate), 6.1, II

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Australian Inventory of Chemical  
Substances  
Standard for the Uniform Scheduling of  
Drugs and Poisons  
National regulations  
Information about limitation of use:

Substance is not listed.  
Substance is not listed.

For use only by technically qualified individuals.  
Employment restrictions concerning young persons must be observed.

Water hazard class:  
Other regulations, limitations and prohibitive  
ELINCS (European List of Notified Chemical  
Substances)  
Substances of very high concern (SVHC)  
according to REACH, Article 57  
REACH - Pre-registered substances  
15.2 Chemical safety assessment:

Water danger class 3 (Self-assessment): extremely hazardous for water.  
regulations  
Substance is not listed.  
Substance is not listed.  
Substance is not listed.  
A Chemical Safety Assessment has not been carried out.

**SECTION 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 data specification sheet:  
Abbreviations and acronyms:

Health, Safety and Environmental Department.  
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 Harmonized 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

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