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

1.1 Product identifier

Trade name: 2,4,6-Trichlorobenzoyl chloride

Stock number: L14159

CAS Number: 4136-95-2

EC number: 609-916-0

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:
Thermo Fisher (Kandel) GmbH
Zeppelinstr. 7b
76185 Karlsruhe / Germany

Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300

Email: tech@alfa.com

www.alfa.com

Informing department: Product safety Tel + +049 (0) 7275 988687-0

1.4 Emergency telephone number:

Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)

Poison Information Center Mainz:
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Other hazards that do not result in classification No information known.

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

GHS05

Signal word Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe dusts or mists.

P303+P361+P338 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

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

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:

4136-95-2 2,4,6-Trichlorobenzoyl chloride

Concentration: ≤ 100%

Identification number(s):

EC number: 609-916-0

SECTION 4: First aid measures

4.1 Description of first aid measures

General information Instantly remove any clothing soiled by the product.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly 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 doctor.

After swallowing Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

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

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

(Contd. on page 2)
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 product to reach sewage system or water bodies.
Ensure good ventilation/exhaustion at the workplace.

6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See section 6 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handle under dry protective gas.
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires: No information known.

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 water.
Store away from oxidising agents.

Further information about storage conditions:
Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and keep away from water.
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:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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.
Immediately remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Maintain an ergonomically appropriate working environment.

Breathing equipment:
Use breathing protection with high concentrations.
Recommended filter device for short term use:
Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

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.

Material of gloves Impervious gloves
Eye protection:
Tightly sealed safety glasses.
Full face protection
Safety glasses with side shields / NIOSH (US) or EN 166 (EU)

Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance: Liquid
Odour: Not determined
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/freezing point: Not determined
Initial boiling point and boiling range: 107-108 °C (6mm)
Sublimation temperature / start: Not determined

Flash point: >110 °C
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined.
Decomposition temperature: Not determined.
Self-inflammability: Not determined.

Explosive properties: Not determined.
Critical values for explosion:
Lower: Not determined.
Upper: Not determined.

Steam pressure: 1.561 g/cm²

Density at 20 °C
Trade name: 2,4,6-Trichlorobenzoyl chloride

9.2 Other information
No further relevant information available.

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
Reacts with strong oxidising agents

10.4 Conditions to avoid
No further relevant information available.

10.5 Incompatible materials:
Oxidising agents
Water/moisture

10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Hydrogen chloride (HCl)

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion:
Causes severe skin burns.

Eye irritation or corrosion:
Causes serious eye damage.

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.

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.

Additional ecological information:
General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
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.

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.2 UN proper shipping name
ADR 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,4,6-Trichlorobenzoyl chloride)
IMDG 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,4,6-Trichlorobenzoyl chloride)

14.3 Transport hazard class(es)
ADR
Class 8 (C3) Corrosive substances.

IMDG
Class 8 (C3) Corrosive substances.

IATA
Class 8 (C3) Corrosive substances.

(C) 2018 Empact Data Services
Update date: 15.01.2018
Revision: 15.01.2018
Version number 1
### Trade name 2,4,6-Trichlorobenzoyl chloride

<table>
<thead>
<tr>
<th>IMDG, IATA</th>
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<tr>
<td>Class</td>
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<tr>
<td>Label</td>
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<td>Packing group</td>
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**14.5 Environmental hazards:** Not applicable.

**14.6 Special precautions for user**

- **Kemler Number:** 80
- **EMS Number:** F-A,S-B
- **Segregation groups:** Acids
- **Stowage Category:** B
- **Stowage Code:** SW2 Clear of living quarters.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

**Transport/Additional information:**

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
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<tbody>
<tr>
<td>Limited quantities (LQ)</td>
<td>1L</td>
</tr>
<tr>
<td>Excepted quantities (EQ)</td>
<td>Code: E2</td>
</tr>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td>Maximum net quantity per outer packaging: 500 ml</td>
</tr>
</tbody>
</table>

**UN "Model Regulation":**

- UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (2,4,6-TRICHLOROBENZOYL CHLORIDE), 8, II

### SECTION 15: Regulatory information

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

- **Australian Inventory of Chemical Substances** Substance is not listed.
- **Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.
- **Directive 2012/18/EU** Substances is not listed.  
  - **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3  
  - **National regulations** Information about limitation of use: For use only by technically qualified individuals. Employment restrictions concerning young persons must be observed.  
  - **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.  
  - **ELINCS (European List of Notified Chemical Substances)** Substance is not listed.  
  - **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.  
  - **SVHC: Substances of Very High Concern** Substance is not listed.  
  - **Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

15.2 **Chemical safety assessment:** 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 Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**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  
- ELINCS: European Inventory of Existing Commercial Chemical Substances  
- 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  
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative  
- NIOSH: National Institute for Occupational Safety  
- OSHA: Occupational Safety and Health Administration (USA)  
- TLV: Threshold Limit Value  
- PEL: Permissible Exposure Limit  
- REL: Recommended Exposure Limit  
- BEI: Biological Exposure Limit  
- Skin Cont. 1B: Skin corrosion/irritation – Category 1B