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

1.1 Product identifier
Trade name: Mesitylene

Stock number: A11323
CAS Number: 108-67-8
EC number: 203-604-4
Index number: 601-025-00-5

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 (0) 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

GHS02 flame
Flam. Liq. 3 H226 Flammable liquid and vapour.

GHS09 environment
Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

GHS07
STOT SE 3 H335 May cause respiratory irritation.

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

GHS02 GHS07 GHS09

Signal word Warning
Hazard statements
H226 Flammable liquid and vapour.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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:
108-67-8 Mesitylene

Concentration: ≤100%
Identification number(s):
EC number: 203-604-4
Index number: 601-025-00-5

SECTION 4: First aid measures

4.1 Description of first aid measures
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
No further relevant information available.
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

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.
- Keep away from ignition sources.

6.2 Environmental precautions: Do not allow product to reach sewage system or water bodies.

6.3 Methods and material for containment and cleaning up:

- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Ensure adequate ventilation.
- Keep ignition sources away - Do not smoke.

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.

7.2 Conditions for safe storage, including any incompatibilities

- Store away from oxidising agents.
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

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

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.
- Maintain an ergonomically appropriate working environment.

Breathing equipment:

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 glove:

- Penetration of glove material (in minutes): 480

Glove thickness: 0.7 mm

Eye protection:

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Unpleasant</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>Change in condition</td>
<td>Melting point/freezing point: -45 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>163-165 °C</td>
</tr>
<tr>
<td>Sublimation temperature / start:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point:</td>
<td>44 °C</td>
</tr>
<tr>
<td>Inflammability (solid, gaseous)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Ignition temperature:</td>
<td>550 °C</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Self-inflammability:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Explosive properties:</td>
<td>Product is not explosive. However, formation of explosive air/steam mixtures is possible.</td>
</tr>
<tr>
<td>Critical values for explosion:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Steam pressure at 20 °C:</td>
<td>2.8 hPa</td>
</tr>
<tr>
<td>Density at 20 °C:</td>
<td>0.865 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water at 20 °C:</td>
<td>2.9 g/l</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water:</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>dynamic: Not determined</td>
</tr>
<tr>
<td>kinematic:</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

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.

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

10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50 5000 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>LC50 (4H) 24 mg/l (rat)</td>
</tr>
</tbody>
</table>

Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
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: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: May cause respiratory irritation.
Acute to 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.

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:
Do not allow product to reach ground water, water bodies or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water.
Danger to drinking water if even 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.
Consult state, local or national regulations for proper disposal.
SECTION 14: Transport information

14.2 UN proper shipping name
ADR: 2325 1,3,5-TRIMETHYLBENZENE
IMDG, IATA: 1,3,5-TRIMETHYLBENZENE

14.3 Transport hazard class(es)
ADR
- Class 3 (F1) Flammable liquids.
- Label 3

IMDG, IATA
- Class 3 Flammable liquids.
- Label 3

14.5 Environmental hazards:
Environmentally hazardous substance, liquid

14.6 Special precautions for user
Warning: Flammable liquids.
Kemler Number: 30
EMS Number: F-E-S-D
Stowage Category: A

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

Transport/Additional information:

ADR
- Exceptional quantities (EQ): E1
- Limited quantities (LQ): 5L
- Code: E1
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 1000 ml
- Transport category: 3
- Tunnel restriction code: D/E

IMDG
- Exceptional quantities (EQ): E1
- Limited quantities (LQ): 5L
- Code: E1
- Maximum net quantity per inner packaging: 30 ml
- Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":
- UN 2325 3,5-TRIMETHYLBENZENE, 3, III

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
Named dangerous substances - ANNEX I: Substance is not listed.
Seveso category: E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
Qualifying quantity (tonnes) for the application of lower-tier requirements: 200 t
Qualifying quantity (tonnes) for the application of upper-tier requirements: 500 t
REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3, 40

National regulations
Information about limitation of use:
Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.
Classification according to VbF: A II
Technical instructions (air):

<table>
<thead>
<tr>
<th>Class Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK 100.0</td>
</tr>
</tbody>
</table>

Water hazard class: Water hazard class 2 (Self-assessment): hazardous for water.

Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances): Substance is not listed.
Substances 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.

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
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>VbF</td>
<td>Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal concentration, 50 percent</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose, 50 percent</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>SVHC</td>
<td>Substances of Very High Concern</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (USA)</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>REL</td>
<td>Recommended Exposure Limit</td>
</tr>
<tr>
<td>BEI</td>
<td>Biological Exposure Limit</td>
</tr>
<tr>
<td>Flam. Liq. 3</td>
<td>Flammable liquids – Category 3</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) – Category 3</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment - long-term aquatic hazard – Category 2</td>
</tr>
</tbody>
</table>