

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

Trade name **p-Xylene**
 Stock number: A10534, L03279
 CAS Number: 106-42-3
 EC number: 203-396-5
 Index number: 601-022-00-9

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

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.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

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

Xn; Harmful

R20/21: Harmful by inhalation and in contact with skin.

Xi; Irritant

R38: Irritating to skin.

R10: Flammable.

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.

GHS02, GHS07

Warning

H226 Flammable liquid and vapour.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H315 Causes skin irritation.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P403+P235 Store in a well-ventilated place. Keep cool.

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: 106-42-3 p-Xylene

Identification number(s):

EC number: 203-396-5

Index number: 601-022-00-9

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.

After skin contact

Seek immediate medical advice.

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**

Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for cooling exposed containers.

Safety data sheet
according to 1907/2006/EC, Article 31

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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 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:

Keep away from ignition sources.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

Prevention of secondary hazards:

Keep away from ignition sources.

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.

Information about protection against explosions and fires:

Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:
Information about storage in one common storage facility:
Further information about storage conditions:

No special requirements.
Store away from oxidizing agents.

7.3 Specific end use(s)

Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
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:****106-42-3 p-Xylene (100,0%)**

MAK (Germany)	440 mg/m ³ , 100 ppm vgl.Abschn.VIII
PEL (USA)	435 mg/m ³ , 100 ppm
REL (USA)	Short-term value: 655 mg/m ³ , 150 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV (USA)	Short-term value: 651 mg/m ³ , 150 ppm Long-term value: 434 mg/m ³ , 100 ppm BEI

Ingredients with biological limit values:**106-42-3 p-Xylene (100,0%)**

BGW (Germany)	1,5 mg/l B b Xylol
	2 g/l U b
BEI (USA)	Methylhippur-(Tolur-)Säure 1,5 g/g creatinine urine end of shift Methylhippuric acids

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.
Avoid contact with the skin.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment:**Protection of hands:**

Use breathing protection with high concentrations.
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**Penetration time of glove material****Eye protection:**

Impervious gloves
Not determined
Safety glasses
Face protection

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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:**

Form: Liquid
Colour: Colourless
Smell: Not determined
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: 12-13 °C
Boiling point/Boiling range: 137-138 °C
Sublimation temperature / start: Not determined

Flash point: 27 °C
Inflammability (solid, gaseous): Not applicable.
Ignition temperature: 525 °C

Decomposition temperature: Not determined
Self-inflammability: Not determined.

Critical values for explosion:

Lower: 1,7 Vol %
Upper: 7,6 Vol %

Steam pressure at 20 °C: 7 hPa

Density at 20 °C: 0,866 g/cm³

Relative density: Not determined.

Vapour density: Not determined.

Evaporation rate: Not determined.

Solubility in / Miscibility with

Water at 20 °C: 0,2 g/l

Partition coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic at 20 °C: 0,648 mPas

kinematic: Not determined.

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: No dangerous reactions known

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Acute toxicity: Harmful if inhaled.
Harmful in contact with skin.
Danger by skin resorption.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

LD/LC50 values that are relevant for classification:

Oral LD50 3910 mg/kg (rat)

Skin irritation or corrosion: Causes skin irritation.

Eye irritation or corrosion: Irritant effect.

Sensitization: No sensitizing effect known.

Germ cell mutagenicity: No effects known.

Carcinogenicity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential.

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for components in this product.

Reproductive toxicity:

Specific target organ system toxicity - repeated exposure: No effects known.

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.

Additional ecological information:

General notes: Do not allow product to reach ground water, water bodies or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 2 (Assessment by list): hazardous for water.
Danger to drinking water if even small quantities leak into soil.
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.

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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

UN-Number ADR, IMDG, IATA	UN1307
14.2 UN proper shipping name ADR IMDG, IATA	1307 XYLENES XYLENES
14.3 Transport hazard class(es) ADR	
	
Class Label IMDG, IATA	3 (F1) Flammable liquids. 3
	
Class Label	3 Flammable liquids. 3
Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards:	Not applicable.
14.6 Special precautions for user Kemler Number:	Warning: Flammable liquids. 30
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	E1 LQ7 3 D/E
UN "Model Regulation":	UN1307, XYLENES, 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 listed.				
Standard for the Uniform Scheduling of Drugs and Poisons	Substance is not listed.				
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 border="1"> <thead> <tr> <th>Class</th> <th>Share in %</th> </tr> </thead> <tbody> <tr> <td>NK</td> <td>100,0</td> </tr> </tbody> </table>	Class	Share in %	NK	100,0
Class	Share in %				
NK	100,0				
Water hazard class:	Water hazard class 2 (Assessment by list): 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 REACH, Article 57	Substance is not listed.				
REACH - Pre-registered substances	Substance is 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 Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.
Abbreviations and acronyms:
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 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
 EINECS: European Inventory of Existing Commercial Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 VbF: Verordnung über brennbare Flüssigkeiten, Österreich (Ordinance on the storage of combustible liquids, Austria)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent