Safety Data Sheet

p-xylene-d10

According to Regulation (EC) No. 1907/2006 (REACH)

Classification acc. to 29 CFR 1910.1200

Version number: GHS 3.0
Replaces version of: 2023-02-01 (GHS 2)

Revision: 2025-06-10

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

1.1 Product identifier

Identification of the substance	**p-Xylene-d10**
CAS number	41051-88-1
Alternative name(s)	1,4-xylene-d10

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

Relevant identified uses	the product is intended for research, analysis and scientific education scientific research and development product and process oriented research and development laboratory and analytical use laboratory chemical
HS code	2845.90.

1.3 Details of the supplier of the safety data sheet

Zeochem AG
Joweid 5, CH-8630 Rüti
Switzerland

Telephone: +41 44 922 93 93
e-Mail: info@zeochem.com
Website: https://www.zeochem.com

1.4 Emergency telephone number

Poison centre

Country	Name	Telephone
Switzerland	Toxzentrum Zürich / Tox. Info Suisse	+41 44 251 51 51 / CH: 145 - 24h/7d
United States	CHEMTREC USA	+1 800 424 9300 - 24h/7d

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	3	Flam. Liq. 3	H226
3.1D	acute toxicity (dermal)	4	Acute Tox. 4	H312
3.1I	acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
3.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.8R	specific target organ toxicity - single exposure (respiratory	3	STOT SE 3	H335

Section	Hazard class	Category	Hazard class and category	Hazard statement
	tract irritation)			
3.10	aspiration hazard	1	Asp. Tox. 1	H304
4.1C	hazardous to the aquatic environment - chronic hazard	3	Aquatic Chronic 3	H412

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

- Signal word danger

2.2.1.2 **Pictograms**

GHS02, GHS07, GHS08	

Hazard statements	
H226	flammable liquid and vapour
H304	may be fatal if swallowed and enters airways
H312+H332	harmful in contact with skin or if inhaled
H315	causes skin irritation
H319	causes serious eye irritation
H335	may cause respiratory irritation
H412	harmful 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
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor
P331	do NOT induce vomiting
P370+P378	in case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish
P403+P233	store in a well-ventilated place. Keep container tightly closed
P403+P235	store in a well-ventilated place. Keep cool

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	p-xylene-d10
Identifiers	
CAS No	41051-88-1
EC No	255-193-6

Specific Conc. Limits	M-Factors	ATE	Exposure route
-	-	1,100 $^{mg}/_{kg}$ 11 $^{mg}/_{l}$/4h	dermal inhalation: vapour

Molecular formula	C8D10
Molar mass	116 $^{g}/_{mol}$

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

Store in a dry place.

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Avoidance of ignition sources. Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation. Ground/bond container and receiving equipment.

- Specific designs for storage rooms or vessels

- Storage temperature Recommended storage temperature: 16 – 22 °C

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
EU	p-xylene	106-42-3	IOELV	50	221	100	442			H	2000/39/EC
GB	p-xylene	106-42-3	WEL	50	220	100	441			H	EH40/2005

Notation

Ceiling-C	ceiling value is a limit value above which exposure should not occur
H	absorbed through the skin
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

Notation

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
GB	xylene, mixture of isomers	methylhippuric acid	crea	BMGV	650 mmol/mol	EH40/2005

Notation

crea creatinine

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	221 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	442 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	221 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	442 mg/m³	human, inhalatory	worker (industry)	acute - local effects
DNEL	212 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Environmental values

Relevant PNECs and other threshold levels

Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.044 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.004 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
PNEC	1.6 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	2.52 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.252 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
PNEC	0.852 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Type of material

Nitrile
IIR: isobutene-isoprene (butyl) rubber

- Breakthrough times of the glove material

>30 minutes (permeation: level 2)

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	not determined
Odour	characteristic
Melting point/freezing point	-25.2 °C at 1,013 hPa
Boiling point or initial boiling point and boiling range	135 – 138 °C at 1,013 hPa
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	0.9 vol% - 6.7 vol%
Flash point	32 °C at 1,013 hPa (closed cup)
Auto-ignition temperature	463 °C at 1,013 hPa (ECHA)
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	0.8 $^{mm^2}/_{s}$ at 25 °C

Solubility(ies)

Water solubility	170 $^{mg}/_{l}$ at 25 °C

Partition coefficient

Partition coefficient n-octanol/water (log value)	3.12 (pH value: 7, 20 °C) (ECHA)
Soil organic carbon/water (log KOC)	2.73 (ECHA)

Vapour pressure	0.194 PSI at 90 °F

Density and/or relative density

Density	0.95 $^{g}/_{cm^3}$
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)

9.2 Other information

Information with regard to physical hazard classes	there is no additional information

Other safety characteristics

Surface tension	29.8 $^{mN}/_{m}$ (25 °C) (ECHA)
Refractive index	1.49 (20 °C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Oxidisers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful in contact with skin. Harmful if inhaled.
GHS of the United Nations, annex 4: May be harmful if swallowed.

- Acute toxicity estimate (ATE)

Dermal	1,100 $^{mg}/_{kg}$
Inhalation: vapour	11 $^{mg}/_{l}$/4h

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (chronic)			
Endpoint	**Value**	**Species**	**Exposure time**
EL50	2.9 $^{mg}/_{l}$	aquatic invertebrates	21 d
ErC50	4.36 $^{mg}/_{l}$	algae	73 h
EC50	2.2 $^{mg}/_{l}$	algae	73 h

12.2 Persistence and degradability

Biodegradation

The substance is readily biodegradable.

Process of degradability		
Process	**Degradation rate**	**Time**
oxygen depletion	94 %	28 d

12.3 Bioaccumulative potential

Data are not available.

n-octanol/water (log KOW)	3.12 (pH value: 7, 20 °C) (ECHA)
BCF	>5.5 – <12.2 (ECHA)

12.4 Mobility in soil

Henry's law constant	623 $^{Pa\ m^3}/_{mol}$ at 25 °C
The Organic Carbon normalised adsorption coefficient	2.73 (ECHA)

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID	UN 1307
IMDG-Code	UN 1307
ICAO-TI	UN 1307

14.2 UN proper shipping name

ADR/RID	XYLENES
IMDG-Code	XYLENES
ICAO-TI	Xylenes

14.3 Transport hazard class(es)

ADR/RID	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

ADR/RID	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

Classification code	F1
Danger label(s)	3



Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Tunnel restriction code (TRC)	D/E
Hazard identification No	30
Emergency Action Code	3Y

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

Classification code	F1
Danger label(s)	3



Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	3
Hazard identification No	30

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	-
Danger label(s)	3



Special provisions (SP)	223
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, S-D
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s)	3



Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

not listed

Regulation on persistent organic pollutants (POP)

not listed

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)

Name of substance	Name acc. to inventory	CAS No	No
p-xylene-d10	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
p-xylene-d10	flammable / pyrophoric		40

National inventories

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed (ACTIVE)

Legend

REACH Reg.	REACH registered substances
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.3	Details of the supplier of the safety data sheet: Zeochem AG Joweid 5, CH-8630 Rüti Switzerland Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com / info@zeochem.ch Website: https://www.zeochem.com	Details of the supplier of the safety data sheet: Zeochem AG Joweid 5, CH-8630 Rüti Switzerland Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com Website: https://www.zeochem.com	yes
1.4		Poison centre: change in the listing (table)	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
6.2	Environmental precautions: Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.	Environmental precautions: Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.	yes
7.2		- Specific designs for storage rooms or vessels	yes
7.2		Storage temperature: Recommended storage temperature: 16 – 22 °C	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		Biological limit values: change in the listing (table)	yes
12.5	Results of PBT and vPvB assessment: Data are not available.	Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes
12.6	Endocrine disrupting properties: Not listed.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
15.1		National inventories: change in the listing (table)	yes

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.