

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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

1.1 Product identifier

Identification of the substance

Fluorobenzene-d5

Registration number (REACH)

this information is not available

CAS number

1423-10-5

Alternative name(s)

fluorobenzene-d5

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

Relevant identified uses

laboratory and analytical use
product and process oriented research and development
scientific research and development
the product is intended for research, analysis and scientific education
laboratory chemical

HS code

2845.90.

1.3 Details of the supplier of the safety data sheet

Zeochem AG
Joweid 5, CH-8630 Rütli
SwitzerlandTelephone: +41 44 922 93 93
e-Mail: info@zeochem.com / info@zeochem.ch
Website: https://www.zeochem.com

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 (CLP)

Section	Hazard class	Category	Hazard class and category	Hazard statement
2.6	flammable liquid	2	Flam. Liq. 2	H225
3.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
4.1C	hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

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 according to Regulation (EC) No 1272/2008 (CLP)

- Signal word danger

Safety Data Sheet

Fluorobenzene-d5

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

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

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2.2.1.2 Pictograms

GHS02, GHS05, GHS09	
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Hazard statements

H225	highly flammable liquid and vapour
H318	causes serious eye damage
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
P280	wear protective gloves/protective clothing/eye protection/face protection/hearing protection
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	immediately call a POISON CENTER/doctor
P370+P378	in case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish
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.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Fluorobenzene-d5
Identifiers	
CAS No	1423-10-5
EC No	215-831-6
Purity	≥90 %
Molecular formula	C6D5F
Molar mass	101 g/mol

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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. 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.

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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.

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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

Use local and general ventilation. Ground/bond container and receiving equipment.

- 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)
this information is not available

Human health values

Relevant DNELs and other threshold levels				
Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	24 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	75 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
DNEL	5.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
DNEL	16 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects

Environmental values

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.025 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.003 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	1.4 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	0.979 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	0.098 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

Relevant PNECs and other threshold levels				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.656 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	-42 °C

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

Boiling point or initial boiling point and boiling range	84 – 85 °C
Flammability	flammable liquid in accordance with GHS criteria
Lower and upper explosion limit	not determined
Flash point	-15 °C (DIN EN ISO 13736) (closed cup)
Auto-ignition temperature	635 °C at 1,013 hPa (ECHA)
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	0.722 mm ² /s at 20 °C
Solubility(ies)	not determined

Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
Soil organic carbon/water (log KOC)	1.77 (ECHA)

Vapour pressure	not determined
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Density and/or relative density

Density	1.08 g/cm ³
Relative vapour density	3.31 (air = 1)

Particle characteristics	not relevant (liquid)
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9.2 Other information

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

Fluorobenzene-d5

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

Version number: GHS 3.0
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Revision: 2023-02-03

Other safety characteristics

Refractive index	1.47 (20 °C)
Temperature class (EU, acc. to ATEX)	T1 (maximum permissible surface temperature on the equipment: 450°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 hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (chronic)			
Endpoint	Value	Species	Exposure time
EC50	2.2 mg/l	aquatic invertebrates	21 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

BCF	≥4.3 – ≤39.6 (ECHA)
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12.4 Mobility in soil

The Organic Carbon normalised adsorption coefficient	1.77 (ECHA)
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12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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/ADN	UN 2387
IMDG-Code	UN 2387
ICAO-TI	UN 2387

14.2 UN proper shipping name

ADR/RID/ADN	FLUOROBENZENE
IMDG-Code	FLUOROBENZENE
ICAO-TI	Fluorobenzene

14.3 Transport hazard class(es)

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

14.4 Packing group

ADR/RID/ADN	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

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

Safety Data Sheet

Fluorobenzene-d5

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Replaces version of: 2023-02-02 (GHS 2)


Revision: 2023-02-03

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


Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code	F1
Danger label(s)	3, fish and tree
	
Environmental hazards	YES (hazardous to the aquatic environment)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	YES (hazardous to the aquatic environment)
Danger label(s)	3, fish and tree
	
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	B
Segregation group	10 - Liquid halogenated hydrocarbons

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

Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	3
	
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

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)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)			
Name of substance	Name acc. to inventory	CAS No	No
Fluorobenzene-d5	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		3
Fluorobenzene-d5	flammable / pyrophoric		40
Fluorobenzene-d5	substances in tattoo inks and permanent make-up		75

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

not listed

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)

List of pollutants (WFD)			
Name of substance	CAS No	Listed in	Remarks
Fluorobenzene-d5		a)	

Legend

A) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

Not listed.

National inventories

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

Legend

REACH Reg. REACH registered substances
TSCA Toxic Substance Control Act

Safety Data Sheet

Fluorobenzene-d5

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

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

Revision: 2023-02-03

15.2 Chemical Safety Assessment

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

SECTION 16: Other information**Key literature references and sources for data**

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). 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
H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H411	Toxic 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.