

Safety data sheet

according to 1907/2006/EC, Article 31

Revision: 25.05.2011

Printing date 26.05.2011

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

| | |
|--|--|
| Product identifier | |
| Trade name | 3-Fluorobenzal chloride |
| Stock number: | L04121 |
| EINECS Number: | 206-952-5 |
| Relevant identified uses of the substance or mixture and uses advised against | |
| Sector of Use | SU24 Scientific research and development |
| Details of the supplier of the safety data sheet | |
| Manufacturer/Supplier: | Alfa Aesar GmbH & Co.KG A Johnson Matthey Company Benzstrasse 3 D-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 department. |
| Emergency telephone number: | Product Safety Department +049 (0) 7275 988687-0 (business hours) Carechem 24: +44 (0) 1235 239 670 (Multi-language 24 hour emergency) Giftnotruf Universität Mainz / Poison Information Center Mainz www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240 |

2 Hazards identification

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.

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



C; Corrosive

R34: Causes burns.

Label elements
Labelling according to Regulation (EC) No 1272/2008
Hazard pictograms

The substance is classified and labelled according to the CLP regulation.



GHS05

Signal word
Hazard statements
Precautionary statements

Danger
H314 Causes severe skin burns and eye damage.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Remove/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.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment
PBT:
vPvB:

Not applicable.
Not applicable.

3 Composition/information on ingredients

| | |
|--|---|
| Chemical characterization: Substances | |
| (CAS#) Designation: | 3-Fluorobenzal chloride (CAS# 402-64-2): 100% |
| Identification number(s): | |
| EINECS Number: | 206-952-5 |

4 First aid measures

| | |
|--|---|
| 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. |
| 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 immediate medical advice. |

5 Firefighting measures

| | |
|--|---|
| Extinguishing media | |
| Suitable extinguishing agents | CO2, sand, extinguishing powder. Do not use water. |
| For safety reasons unsuitable extinguishing agents | Water. |
| Special hazards arising from the substance or mixture | Can be released in case of fire: Carbon monoxide and carbon dioxide Hydrogen chloride (HCl) Hydrogen fluoride (HF) |
| Advice for firefighters | |
| Protective equipment: | Wear self-contained breathing apparatus. Wear full protective suit. |

6 Accidental release measures

| | |
|--|--|
| Personal precautions, protective equipment and emergency procedures | Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation |
| Environmental precautions: | Do not allow material to be released to the environment without proper governmental permits. |
| Methods and material for containment and cleaning up: | Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). |

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Reference to other sections

Use neutralizing agent.
 Dispose of contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 See Section 7 for information on safe handling
 See section 8 for information on personal protection equipment.
 See Section 13 for information on disposal.

7 Handling and storage**Handling****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:

Keep ignition sources away - Do not smoke.

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 oxidizing agents.
 Store away from strong bases.

Further information about storage conditions:

Keep container tightly sealed.
 Store in cool, dry conditions in well sealed containers.
 Store in a locked cabinet or with access restricted to technical experts or their assistants.

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.

Control parameters**Components with critical values that require monitoring at the workplace:**

Not required.
 No data

Additional information:**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 eyes and skin.
 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.

Breathing equipment:**Protection of hands:****Material of gloves**

Impervious gloves

Not determined

Safety glasses

Tightly sealed safety glasses.

Face protection

Full face protection

Protective work clothing.

Penetration time of glove material**Eye protection:****Body protection:****9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:****Form:**

Liquid

Colour:

Colourless

Yellow

Smell:

Not determined

Odour threshold:

Not determined.

pH-value:

Not determined.

Change in condition**Melting point/Melting range:**

Not determined

Boiling point/Boiling range:

195-197°C

Sublimation temperature / start:

Not determined

Flash point:

Not determined

Inflammability (solid, gaseous)

Not applicable.

Ignition temperature:

Not determined

Decomposition temperature:

Not determined

Self-inflammability:

Not determined.

Danger of explosion:

Product is not explosive.

Critical values for explosion:**Lower:**

Not determined

Upper:

Not determined

Steam pressure:

Not determined

Density

Not determined

Relative density

Not determined.

Vapour density

Not determined.

Evaporation rate

Not determined.

Solubility in / Miscibility with**Water:**

Not miscible or difficult to mix

Segregation coefficient (n-octanol/water):

Not determined.

Viscosity:**dynamic:**

Not determined.

kinematic:

Not determined.

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| | |
|-------------------|--|
| Other information | No further relevant information available. |
|-------------------|--|

10 Stability and reactivity

| | |
|---|--|
| Reactivity | |
| Chemical stability | |
| Thermal decomposition / conditions to be avoided: | No decomposition if used and stored according to specifications. |
| Possibility of hazardous reactions | No dangerous reactions known |
| Incompatible materials: | Oxidizing agents |
| | Bases |
| Hazardous decomposition products: | Carbon monoxide and carbon dioxide |
| | Hydrogen chloride (HCl) |
| | Hydrogen fluoride |

11 Toxicological information

| | |
|---------------------------------------|--|
| Information on toxicological effects | |
| Acute toxicity: | |
| Primary irritant effect: | |
| on the skin: | Corrosive effect on skin and mucous membranes. |
| on the eye: | Strong corrosive effect. |
| | Lachrymatory effect. |
| Sensitization: | No sensitizing effect known. |
| Additional toxicological information: | To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. |
| | Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. |
| | No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. |

12 Ecological information

| | |
|-------------------------------------|--|
| Toxicity | |
| Acquatic toxicity: | No further relevant information available. |
| Persistence and degradability | No further relevant information available. |
| Behaviour in environmental systems: | |
| Bioaccumulative potential | No further relevant information available. |
| Mobility in soil | No further relevant information available. |
| Additional ecological information: | |
| General notes: | Generally not hazardous for water. |
| | Do not allow material to be released to the environment without proper governmental permits. |
| Results of PBT and vPvB assessment | |
| PBT: | Not applicable. |
| vPvB: | Not applicable. |
| Other adverse effects | No further relevant information available. |

13 Disposal considerations

| | |
|-------------------------|--|
| 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. |

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)



| | |
|--------------------------|--|
| ADR/RID-GGVS/E Class: | 8 (C3) Corrosive substances. |
| Kemler Number: | 80 |
| UN-Number: | 3265 |
| Packaging group: | II |
| Label | 8 |
| UN proper shipping name: | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (3-Fluorobenzal chloride) |
| Limited quantities (LQ) | LQ22 |
| Transport category | 2 |
| Tunnel restriction code | E |

Maritime transport IMDG/GGVSea:



| | |
|-------------------------|---|
| IMDG/GGVSea Class: | 8 |
| UN Number: | 3265 |
| Label | 8 |
| Packaging group: | II |
| EMS Number: | F-A,S-B |
| Marine pollutant: | No |
| Segregation groups | Acids |
| Correct technical name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (3-Fluorobenzal chloride) |

Air transport ICAO-TI and IATA-DGR:



| | |
|-------------------------|---|
| ICAO/IATA Class: | 8 |
| UN/ID Number: | 3265 |
| Label | 8 |
| Packaging group: | II |
| Correct technical name: | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (3-Fluorobenzal chloride) |

| | |
|------------------------|--|
| UN "Model Regulation": | UN3265, CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S., 8, II |
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Special precautions for user
Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code

Warning: Corrosive substances.
Not applicable.

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15 Regulatory information

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

Labelling according to Regulation (EC) No
1272/2008

Hazard pictograms

The substance is classified and labelled according to the CLP regulation.



GHS05

Signal word

Hazard statements

Precautionary statements

Danger

H314 Causes severe skin burns and eye damage.

P260

Do not breathe dust/fume/gas/mist/vapours/spray.

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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.

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P405

Store locked up.

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

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:

Generally not hazardous for water.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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.

Contact:

Zachariah C. Holt

Global EHS Manager

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)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International
Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

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)

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