

# SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0

Creation Date: Aug 11, 2017

Revision Date: Aug 11, 2017

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## 1. Identification

### 1.1 GHS Product identifier

Product name 2,2,3,3,4,4,4-heptafluoro-1-imidazol-1-ylbutan-1-one

### 1.2 Other means of identification

Product number -

Other names heptafluorobutanoylimidazole

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For industry use only.

Uses advised against no data available

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## 2. Hazard identification

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Warning

Hazard statement(s)

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

Precautionary  
statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

## 2.3 Other hazards which do not result in classification

none

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## 3. Composition/information on ingredients

### 3.1 Substances

| Chemical name                                        | Common names and synonyms                            | CAS number | EC number | Concentration |
|------------------------------------------------------|------------------------------------------------------|------------|-----------|---------------|
| 2,2,3,3,4,4,4-heptafluoro-1-imidazol-1-ylbutan-1-one | 2,2,3,3,4,4,4-heptafluoro-1-imidazol-1-ylbutan-1-one | 32477-35-3 | none      | 100%          |

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## 4. First-aid measures

### 4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms/effects, acute and delayed

no data available

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

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### 5. Fire-fighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### 5.2 Specific hazards arising from the chemical

no data available

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

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### 6. Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

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## 7. Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

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## 8. Exposure controls/personal protection

### 8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

### 8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

## Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

## Respiratory protection

Wear dust mask when handling large quantities.

## Thermal hazards

no data available

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## 9. Physical and chemical properties

|                                                          |                         |
|----------------------------------------------------------|-------------------------|
| Physical state                                           | clear, colorless liquid |
| Colour                                                   | no data available       |
| Odour                                                    | no data available       |
| Melting point/ freezing point                            | 360°C(lit.)             |
| Boiling point or initial boiling point and boiling range | 161°C(lit.)             |
| Flammability                                             | no data available       |
| Lower and upper explosion limit / flammability limit     | no data available       |
| Flash point                                              | 77°C                    |
| Auto-ignition temperature                                | no data available       |
| Decomposition temperature                                | no data available       |
| pH                                                       | no data available       |
| Kinematic viscosity                                      | no data available       |
| Solubility                                               | no data available       |
| Partition coefficient n-octanol/water (log               | no data available       |

value)  
Vapour pressure no data available  
Density and/or relative density 1.490g/mL at 25°C(lit.)  
Relative vapour density no data available  
Particle characteristics no data available

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## 10. Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

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## 11. Toxicological information

Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

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## 12. Ecological information

### 12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

## 12.5 Other adverse effects

no data available

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## 13. Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## 14. Transport information

### 14.1 UN Number

ADR/RID: UN1993

IMDG: UN1993

IATA: UN1993

### 14.2 UN Proper Shipping Name

ADR/RID: FLAMMABLE LIQUID, N.O.S.

IMDG: FLAMMABLE LIQUID, N.O.S.

IATA: FLAMMABLE LIQUID, N.O.S.

### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

### 14.4 Packing group, if applicable

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

## 14.6 Special precautions for user

no data available

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

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## 15. Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name                                                            | Common names and synonyms                            | CAS number | EC number   |
|--------------------------------------------------------------------------|------------------------------------------------------|------------|-------------|
| 2,2,3,3,4,4,4-heptafluoro-1-imidazol-1-ylbutan-1-one                     | 2,2,3,3,4,4,4-heptafluoro-1-imidazol-1-ylbutan-1-one | 32477-35-3 | none        |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                                                      |            | Listed.     |
| EC Inventory                                                             |                                                      |            | Listed.     |
| United States Toxic Substances Control Act (TSCA) Inventory              |                                                      |            | Not Listed. |
| China Catalog of Hazardous chemicals 2015                                |                                                      |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               |                                                      |            | Not Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                                                      |            | Not Listed. |
| Vietnam National Chemical Inventory                                      |                                                      |            | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                                                      |            | Not Listed. |

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## 16. Other information

Information on revision

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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website:  
<http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website:  
<https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website:  
<http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website:  
<http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website:  
<http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website:  
<http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

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Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.