

According to REACH Regulations (EC) 1907/2006 and (EU) 2020/878

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

1.1 Product identifier

Product code : GK6163
Product name : 2-Oxobutyric acid
CAS number : 600-18-0
EINECS : 209-986-9
Physical form : liquid, substance
REACH : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

PC21: Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

| | | | |
|--------------|------------------------------|-----------|------------------------|
| Company name | : Glentham Life Sciences Ltd | Telephone | : +44 (0) 1225 667 798 |
| | Unit 5 Leafield Way | Fax | : +44 (0) 2033 978 909 |
| | Corsham SN13 9SW | Email | : info@glentham.com |
| | United Kingdom | Web | : www.glentham.com |

1.4 Emergency telephone number

Emergency telephone : NHS Direct 111 (UK, 24 hours), 112 (EU, 24 Hours), +44 (0) 1225 667 798 (09.00 – 17.00 GMT) number

2. Hazards identification

2.1 Classification of the substance or mixture

Classification under CLP according to (EC) 1272/2008

H314 Skin Corr. 1B
H318 Eye Dam. 1

2.2 Label elements

Label elements under CLP according to (EC) 1272/2008

Pictograms



GHS05

Signal words Danger

Hazard statements

H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off Immediately all contaminated clothing. Rinse SKIN with water [or 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.
P310 Immediately call a POISON CENTER or doctor/physician.
P260 Do not breathe vapors.
P264 Do not breathe fume.

2.3 Other hazards

PBT

This substance is not identified as a PBT substance.

3.0 Composition/information on ingredients

3.1 Substances

| Name | Identifier | % | Classification |
|-------------------|---|-------|---|
| 2-Oxobutyric acid | CAS: 600-18-0 EC: 209-986-9 REACH: Not applicable | 96.0% | H314, Skin Corr. 1B H318, Eye Dam. 1 |

4. First aid measures

4.1 Description of first aid measures

| | |
|---------------------|--|
| Skin contact | Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Remove all contaminated clothes and footwear immediately unless stuck to skin. Transfer to hospital if there are burns or symptoms of poisoning. |
| Eye contact | Transfer to hospital for specialist examination. Bathe the eye with running water for 15 minutes. |
| Ingestion | Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. Transfer to hospital as soon as possible. Wash out mouth with water. |
| Inhalation | If breathing becomes bubbly, have the casualty sit and provide oxygen if available. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. Transfer to hospital as soon as possible. Remove casualty from exposure ensuring one's own safety whilst doing so. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|------------------------------------|---|
| Skin contact | Blistering may occur. Progressive ulceration will occur if treatment is not immediate. |
| Eye contact | Corneal burns may occur. May cause permanent damage. |
| Ingestion | Blood may be vomited. Corrosive burns may appear around the lips. There may be bleeding from the mouth or nose. |
| Inhalation | Exposure may cause coughing or wheezing. There may be shortness of breath with a burning sensation in the throat. |
| Delayed / immediate effects | Immediate effects can be expected after short-term exposure. There may be bleeding from the mouth or nose. |

4.3 Indication of any immediate medical attention and special treatment needed

Immediate / special treatment

Do not induce vomiting. Eye bathing equipment should be available on the premises.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2 Special hazards arising from the substance or mixture

Exposure hazards

Corrosive. In combustion emits toxic fumes.

5.3 Advice for fire-fighters

Wear protective clothing to prevent contact with skin and eyes. Wear self-contained breathing apparatus.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Do not attempt to take action without suitable protective clothing - see section 8 of SDS. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Notify the police and fire brigade immediately.

6.2 Environmental precautions

Do not discharge into drains or rivers.

6.3 Methods and material for containment and cleaning up

Clean-up procedures

Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4 Reference to other sections

Refer to section 8 of SDS.

7. Handling and storage

7.1 Precautions for safe handling

Handling requirements

Avoid direct contact with the substance. Avoid the formation or spread of dust in the air. Do not handle in a confined space. Ensure there is sufficient ventilation of the area.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Avoid contact with water or humidity. Keep container tightly closed. Store in cool, well ventilated area.

7.3 Specific end use(s)

No data available.

8. Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limits

No workplace exposure limit control parameters set

8.2 Exposure controls

| | |
|------------------------|--|
| Engineering measures | Ensure there is sufficient ventilation of the area. |
| Respiratory protection | Respiratory protective device with particle filter. Self-contained breathing apparatus must be available in case of emergency. |
| Hand protection | Protective gloves. |
| Eye protection | Tightly fitting safety goggles. Ensure eye bath is to hand. |
| Skin protection | Protective clothing. |

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|---------------------------|
| Physical state | Liquid |
| Colour | Colourless |
| Odour | No data available. |
| Melting point/Freezing point | 33 °C |
| Boiling point/initial boiling point/boiling range | 74-78 °C @ Press: 25 Torr |
| Flammability | No data available. |
| Lower/Upper explosion limit | No data available. |
| Flash Point | No data available. |
| 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 | No data available. |
| Vapour pressure | No data available. |

Density/relative density No data available.
 Relative vapour pressure No data available.
 Particle characteristics No data available.

9.2 **Other information**

No data available.

10. **Stability and reactivity**

10.1 **Reactivity**

Stable under recommended transport or storage conditions.

10.2 **Chemical stability**

Stable under normal conditions.

10.3 **Possibility of hazardous reactions**

Hazardous reactions

Decomposition may occur on exposure to conditions or materials listed below. Hazardous reactions will not occur under normal transport or storage conditions.

10.4 **Conditions to avoid**

Heat.

10.5 **Incompatible materials**

Materials to avoid

Strong acids. Strong oxidising agents.

11. **Toxicological information**

11.1 **Information on toxicological effects**

a) **Acute toxicity**

No data available.

b) **Skin corrosion/irritation**

Skin corrosion/irritation (Category 1B)

c) **Serious eye damage/irritation**

Serious eye damage/eye irritation (Category 1)

d) **Respiratory or skin sensitisation**

No data available.

e) **Germ cell mutagenicity**

No data available.

f) **Carcinogenicity**

No data available.

g) **Reproductive toxicity**

No data available.

h) **STOT-single exposure**

No data available.

i) **STOT-repeated exposure**

No data available.

j) **Aspiration hazard**

No data available.

Symptoms / routes of exposure

| | |
|--------------|---|
| Skin contact | Blistering may occur. Progressive ulceration will occur if treatment is not immediate. |
| Eye contact | Corneal burns may occur. May cause permanent damage. |
| Ingestion | Blood may be vomited. Corrosive burns may appear around the lips. There may be bleeding from the mouth or nose. |

| | |
|-----------------------------|---|
| Inhalation | Exposure may cause coughing or wheezing. There may be shortness of breath with a burning sensation in the throat. |
| Delayed / immediate effects | Immediate effects can be expected after short-term exposure. There may be bleeding from the mouth or nose. |
| Other information | No data available. |

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

This product does not contain known or suspected endocrine disruptors according to REACH or relevant EU Regulations.

11.2.2 Other information

No additional information

12. Ecological information

12.1 Toxicity

No data available.

12.2 Persistence and degradability

Biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation potential.

12.4 Mobility in soil

Readily absorbed into soil.

12.5 Results of PBT and vPvB assessment

This substance is not identified as a PBT substance.

12.6 Endocrine disrupting properties

This substance is not identified as having endocrine disrupting properties

12.7 Other adverse effects

No data available.

13. Disposal considerations

13.1 Waste treatment methods

Disposal operations

Transfer to a suitable container and arrange for collection by specialised disposal company.

NB

The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.






14. Transport information

| ADR | IMDG | IATA | ADN | RID |
|--|--|--|--|--|
| 14.1. UN number | | | | |
| UN3261 | UN3261 | UN3261 | UN3261 | UN3261 |
| 14.2. UN proper shipping name | | | | |
| CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. | Corrosive solid, acidic, organic, n.o.s. | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. |

Transport document description

| | | | | |
|---|---|---|---|---|
| UN3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (2-OXOBUTYRIC ACID), 8, II | UN3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (2-OXOBUTYRIC ACID), 8, II | UN3261 Corrosive solid, acidic, organic, n.o.s. (2-Oxobutyric acid), 8, II | UN3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (2-OXOBUTYRIC ACID), 8, II | UN3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (2-OXOBUTYRIC ACID), 8, II |
|---|---|---|---|---|

14.3. Transport hazard class(es)

| | | | | |
|---|---|---|--|---|
| 8 | 8 | 8 | 8 | 8 |
|  |  |  |  |  |

14.4. Packing group

| | | | | |
|----|----|----|----|----|
| II | II | II | II | II |
|----|----|----|----|----|

14.5. Environmental hazards

| | | | | |
|----|----|----|----|----|
| No | No | No | No | No |
|----|----|----|----|----|

15. Regulatory information

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

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/878.

Authorisations/Restrictions

| | |
|--|--------------------|
| Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: | No data available. |
| Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: | No data available. |
| Regulation (EC) 1005/2009 on substances that deplete the ozone layer: | No data available. |
| Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: | No data available. |

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

16. Other information

H-Statement Full Texts

| | |
|------|---|
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |

Abbreviations Full Texts

| | |
|-----------|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ALARP | As low as is reasonably practicable |
| CAS | Chemical Abstracts Service |
| CLP | Classification, Labelling and Packaging Regulations |
| COSHH | Control of Substances Hazardous to Health |
| EC Number | European Community Number |
| EC50 | Effective Concentration 50% |
| EILINCS | European List of Notified Chemical Substances |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| GHS | Globally Harmonised System |
| HSE | Health & Safety Executive UK |
| IATA | International Air Transport Association |
| IM | Intramuscular |
| IMDG | The International Maritime Dangerous Goods Code |
| IP | Intraperitoneal |
| IV | Intravascular |

| | |
|-------|--|
| LD50 | Lethal Dose 50% |
| LOEC | Lowest Observable Effective Concentration |
| LTEL | Long Term Exposure Limit |
| NOEC | No Observable Effective Concentration |
| OECD | Organisation for Economic Cooperations and Development |
| PBT | Persistent Bioaccumulative Toxic |
| PPE | Personal Protective Equipment |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Regulations Concerning the International Carriage of Dangerous Goods by Rail |
| SC | Subcutaneous |
| SDS | Safety Data Sheet |
| STEL | Short Term Exposure Limit |
| STOT | Specific Target Organ Toxicity |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and Very Bioaccumulative |
| WEL | Workplace Exposure Limits |

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Disclaimer: Glentham Life Sciences shall not be held liable for any damage resulting from handling or from contact with the above product. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This document does not guarantee the properties or quality of the product.

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