# SAFETY DATA SHEET

## Cefotetan

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

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

### *1.1. Product identifier*

**Product name** Cefotetan

**Product number** 90005452

**CAS number** 69712-56-7

**EC number** 274-093-3

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

**Identified uses** For research purposes only.

**Uses advised against** No specific uses advised against are identified.

### *1.3. Details of the supplier of the safety data sheet*

**Supplier**

Molekula Ltd.
Lingfield Way,
Darlington,
DL1 4XX,
United Kingdom
+44 (0) 3302000333
info@molekula.com

### *1.4. Emergency telephone number*

**+44 (0) 7769276927**

## SECTION 2: Hazards identification

### *2.1. Classification of the substance or mixture*

**Classification (EC 1272/2008)**

**Physical hazards** Not Classified

**Health hazards** Resp. Sens. 1B - H334 Skin Sens. 1B - H317

**Environmental hazards** Not Classified

### *2.2. Label elements*

**EC number** 274-093-3

**Hazard pictograms**



**Signal word** Danger

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| | |
|---|---|
| **Hazard statements** | H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.<br>H317 May cause an allergic skin reaction. |
| **Precautionary statements** | P261 Avoid breathing dust.<br>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.<br>P284 [In case of inadequate ventilation] wear respiratory protection.<br>P302+P352 IF ON SKIN: Wash with plenty of water.<br>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.<br>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.<br>P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.<br>P362+P364 Take off contaminated clothing and wash it before reuse.<br>P501 Dispose of contents/ container in accordance with national regulations. |

### *2.3. Other hazards*

This substance is not classified as PBT or vPvB according to current EU criteria.

## SECTION 3: Composition/information on ingredients

### *3.1. Substances*

| | |
|---|---|
| **Product name** | Cefotetan |
| **CAS number** | 69712-56-7 |
| **EC number** | 274-093-3 |
| **Chemical formula** | C17H17N7O8S4 |

## SECTION 4: First aid measures

### *4.1. Description of first aid measures*

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|---|---|
| **General information** | Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel. |
| **Inhalation** | Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Rinse nose and mouth with water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms are severe or persist. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. |
| **Ingestion** | Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel. |
| **Skin contact** | It is important to remove the substance from the skin immediately. In the event of any sensitisation symptoms developing, ensure further exposure is avoided. Remove contamination with soap and water or recognised skin cleansing agent. Get medical attention if symptoms are severe or persist after washing. |
| **Eye contact** | Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues. |
| **Protection of first aiders** | First aid personnel should wear appropriate protective equipment during any rescue. |

### *4.2. Most important symptoms and effects, both acute and delayed*

| | |
|---|---|
| **General information** | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| **Inhalation** | May cause sensitisation or allergic reactions in sensitive individuals. |
| **Ingestion** | May cause sensitisation or allergic reactions in sensitive individuals. |

| | |
|---|---|
| **Skin contact** | May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin. |
| **Eye contact** | May be slightly irritating to eyes. |

*4.3. Indication of any immediate medical attention and special treatment needed*

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| **Notes for the doctor** | Treat symptomatically. May cause sensitisation or allergic reactions in sensitive individuals. |

## SECTION 5: Firefighting measures

*5.1. Extinguishing media*

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| **Suitable extinguishing media** | Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire. |
| **Unsuitable extinguishing media** | Do not use water jet as an extinguisher, as this will spread the fire. |

*5.2. Special hazards arising from the substance or mixture*

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|---|---|
| **Specific hazards** | None known. |
| **Hazardous combustion products** | Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO). Nitrous gases (NOx). Oxides of sulphur. |

*5.3. Advice for firefighters*

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|---|---|
| **Protective actions during firefighting** | Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities. |
| **Special protective equipment for firefighters** | Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. |

## SECTION 6: Accidental release measures

*6.1. Personal precautions, protective equipment and emergency procedures*

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|---|---|
| **Personal precautions** | Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of dust. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. |

*6.2. Environmental precautions*

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|---|---|
| **Environmental precautions** | Avoid discharge into drains or watercourses or onto the ground. |

*6.3. Methods and material for containment and cleaning up*

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|---|---|
| **Methods for cleaning up** | Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. For waste disposal, see Section 13. |

*6.4. Reference to other sections*

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|---|---|
| **Reference to other sections** | For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13. |

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## SECTION 7: Handling and storage

### *7.1. Precautions for safe handling*

**Usage precautions** Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse.

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

**Storage precautions** Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Store at temperatures between -15°C/5°F and -20°C/-4°F. Heat sensitive

**Storage class** Chemical storage.

### *7.3. Specific end use(s)*

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

## SECTION 8: Exposure controls/Personal protection

### *8.1. Control parameters*

### *8.2. Exposure controls*

**Protective equipment**



**Appropriate engineering controls** Provide adequate ventilation. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection** Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

**Hand protection** It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

**Other skin and body protection** May cause skin sensitisation or allergic reactions in sensitive individuals. Wear appropriate clothing to prevent repeated or prolonged skin contact.

**Hygiene measures** Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

**Respiratory protection** Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

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|---|---|
| **Environmental exposure controls** | Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

## SECTION 9: Physical and chemical properties

### *9.1. Information on basic physical and chemical properties*

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|---|---|
| **Appearance** | Powder. |
| **Colour** | Yellow-white. |
| **Odour** | Not known. |
| **Odour threshold** | No information available. |
| **pH** | Aqueous solutions are acidic. |
| **Melting point** | 173-178°C/343.4-352.4°F |
| **Initial boiling point and range** | 288°C/550.4°F |
| **Flash point** | 110°C/230°F |
| **Evaporation rate** | No information available. |
| **Flammability (solid, gas)** | No information available. |
| **Upper/lower flammability or explosive limits** | No information available. |
| **Vapour pressure** | No information available. |
| **Vapour density** | No information available. |
| **Relative density** | 2.07 g/cm3 |
| **Solubility(ies)** | Slightly soluble in water. Soluble in the following materials: Methanol. Ethanol. |
| **Partition coefficient** | No information available. |
| **Auto-ignition temperature** | No information available. |
| **Decomposition Temperature** | No information available. |

### *9.2. Other information*

| | |
|---|---|
| **Molecular weight** | 575.62 |

## SECTION 10: Stability and reactivity

### *10.1. Reactivity*

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|---|---|
| **Reactivity** | See the other subsections of this section for further details. |

### *10.2. Chemical stability*

| | |
|---|---|
| **Stability** | Stable under the prescribed storage conditions. |

### *10.3. Possibility of hazardous reactions*

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|---|---|
| **Possibility of hazardous reactions** | No potentially hazardous reactions known. |

### *10.4. Conditions to avoid*

| | |
|---|---|
| **Conditions to avoid** | There are no known conditions that are likely to result in a hazardous situation. |

### *10.5. Incompatible materials*

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**Materials to avoid** Strong oxidising agents.

*10.6. Hazardous decomposition products*

**Hazardous decomposition products** Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Carbon dioxide (CO2). Carbon monoxide (CO). Nitrous gases (NOx). Oxides of sulphur.

## SECTION 11: Toxicological information

*11.1. Information on toxicological effects*

**Acute toxicity - oral**

**Summary** Based on available data the classification criteria are not met.

**Acute toxicity - dermal**

**Summary** Based on available data the classification criteria are not met.

**Acute toxicity - inhalation**

**Summary** Based on available data the classification criteria are not met.

**Skin corrosion/irritation**

**Summary** Based on available data the classification criteria are not met.

**Serious eye damage/irritation**

**Summary** Based on available data the classification criteria are not met.

**Respiratory sensitisation**

**Summary** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitisation**

**Summary** May cause an allergic skin reaction.

**Germ cell mutagenicity**

**Summary** Based on available data the classification criteria are not met.

**Carcinogenicity**

**Summary** Based on available data the classification criteria are not met.

**IARC carcinogenicity** None of the ingredients are listed or exempt.

**Reproductive toxicity**

**Summary** Based on available data the classification criteria are not met.

**Specific target organ toxicity - single exposure**

**Summary** Based on available data the classification criteria are not met.

**Specific target organ toxicity - repeated exposure**

**Summary** Based on available data the classification criteria are not met.

**Aspiration hazard**

**Summary** Not relevant. Solid.

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** May cause sensitisation or allergic reactions in sensitive individuals.

**Ingestion** May cause sensitisation or allergic reactions in sensitive individuals.

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| | |
|---|---|
| **Skin contact** | May cause skin sensitisation or allergic reactions in sensitive individuals. Prolonged contact may cause dryness of the skin. |
| **Eye contact** | May be slightly irritating to eyes. |
| **Route of exposure** | Ingestion Inhalation Skin and/or eye contact |
| **Target organs** | No specific target organs known. |
| **Medical considerations** | Skin disorders and allergies. |

## SECTION 12: Ecological information

| | |
|---|---|
| **Ecotoxicity** | Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment. |

### *12.1. Toxicity*

**Acute aquatic toxicity**

| | |
|---|---|
| **Summary** | Based on available data the classification criteria are not met. |

**Chronic aquatic toxicity**

| | |
|---|---|
| **Summary** | Based on available data the classification criteria are not met. |

### *12.2. Persistence and degradability*

| | |
|---|---|
| **Persistence and degradability** | The degradability of the product is not known. |

### *12.3. Bioaccumulative potential*

| | |
|---|---|
| **Bioaccumulative potential** | No data available on bioaccumulation. |
| **Partition coefficient** | No information available. |

### *12.4. Mobility in soil*

| | |
|---|---|
| **Mobility** | No data available. |

### *12.5. Results of PBT and vPvB assessment*

### *12.6. Other adverse effects*

| | |
|---|---|
| **Other adverse effects** | None known. |

## SECTION 13: Disposal considerations

### *13.1. Waste treatment methods*

| | |
|---|---|
| **General information** | The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous. |
| **Disposal methods** | Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. |

## SECTION 14: Transport information

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|---|---|
| **General** | The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID). |

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### *14.1. UN number*

Not applicable.

### *14.2. UN proper shipping name*

Not applicable.

### *14.3. Transport hazard class(es)*

No transport warning sign required.

### *14.4. Packing group*

Not applicable.

### *14.5. Environmental hazards*

**Environmentally hazardous substance/marine pollutant**
No.

### *14.6. Special precautions for user*

Not applicable.

### *14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code*

| | |
|---|---|
| **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** | Not applicable. |

## SECTION 15: Regulatory information

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

| | |
|---|---|
| **National regulations** | Health and Safety at Work etc. Act 1974 (as amended).<br>The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].<br>EH40/2005 Workplace exposure limits. |
| **EU legislation** | Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).<br>Commission Regulation (EU) No 2015/830 of 28 May 2015.<br>Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). |

### *15.2. Chemical safety assessment*

No chemical safety assessment has been carried out.

### Inventories

**EU - EINECS/ELINCS**
None of the ingredients are listed or exempt.

## SECTION 16: Other information

# Cefotetan

| | |
|---|---|
| **Abbreviations and acronyms used in the safety data sheet** | ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.<br>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.<br>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.<br>IATA: International Air Transport Association.<br>ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.<br>IMDG: International Maritime Dangerous Goods.<br>CAS: Chemical Abstracts Service.<br>ATE: Acute Toxicity Estimate.<br>$LC_{50}$: Lethal Concentration to 50 % of a test population.<br>$LD_{50}$: Lethal Dose to 50% of a test population (Median Lethal Dose).<br>$EC_{50}$: 50% of maximal Effective Concentration.<br>PBT: Persistent, Bioaccumulative and Toxic substance.<br>vPvB: Very Persistent and Very Bioaccumulative. |
| **Classification abbreviations and acronyms** | Resp. Sens. = Respiratory sensitisation<br>Skin Sens. = Skin sensitisation |
| **Classification procedures according to Regulation (EC) 1272/2008** | Resp. Sens. 1B - H334: Skin Sens. 1B - H317: : Expert judgement. |
| **Training advice** | Only trained personnel should use this material. |
| **Revision date** | 14/05/2021 |
| **Revision** | 1 |
| **SDS number** | 135 |
| **Hazard statements in full** | H317 May cause an allergic skin reaction.<br>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. |

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.