

# SAFETY DATA SHEETS

According to the UN GHS revision 10

Version: 1.1  
Creation Date: July 15, 2024  
Revision Date: January 13, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name beta-Lactose

### 1.2 Other means of identification

Product number C3D-3408  
Other names  $\beta$ -D-LACTOSE; beta-D-Lactose; beta-lactose

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

Identified uses For laboratory and Industrial use only.  
Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.  
Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou  
Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175  
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

no data available

### 2.2 GHS label elements, including precautionary statements

Pictogram(s) no data available  
Signal word no data available  
Hazard statement(s) no data available  
Precautionary statement(s)  
Prevention no data available  
Response no data available  
Storage no data available  
Disposal no data available

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name | Common names and synonyms                                  | CAS number | EC number | Concentration |
|---------------|------------------------------------------------------------|------------|-----------|---------------|
| beta-Lactose  | 4-O- $\beta$ -D-galactopyranosyl- $\beta$ -D-glucopyranose | 5965-66-2  | 227-751-9 | $\approx$ 99% |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

ACUTE/CHRONIC HAZARDS: This chemical should be considered toxic. (NTP, 1992)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR if necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Poisons A and B

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.

**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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**SECTION 6: Accidental release measures**

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**6.2 Environmental precautions**

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

**6.3 Methods and materials for containment and cleaning up**

Wear approved respiratory protection, chemically compatible gloves, and protective clothing. Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing dust. Place spillage in appropriately labeled container for disposal. Wash spill site.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

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**SECTION 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**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

**Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

**Skin protection**

Wear fire/ flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. 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

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                          |                                                                  |
|----------------------------------------------------------|------------------------------------------------------------------|
| Physical state                                           | PHYSICAL DESCRIPTION: White hard crystalline powder. (NTP, 1992) |
| Colour                                                   | White, hard, crystalline mass of white powder                    |
| Odour                                                    | Odorless                                                         |
| Melting point/freezing point                             | 224°C                                                            |
| Boiling point or initial boiling point and boiling range | 667.9°C at 760 mmHg                                              |
| Flammability                                             | no data available                                                |
| Lower and upper explosion limit/flammability limit       | no data available                                                |
| Flash point                                              | 357.8°C                                                          |
| Auto-ignition temperature                                | no data available                                                |
| Decomposition temperature                                | no data available                                                |
| pH                                                       | no data available                                                |
| Kinematic viscosity                                      | no data available                                                |
| Solubility                                               | 50 to 100 mg/mL at 68° F (NTP, 1992)                             |
| Partition coefficient n-octanol/water                    | log Kow = -5.03 (est)                                            |
| Vapour pressure                                          | 3.42X10 <sup>-16</sup> mm Hg at 25 deg C (est)                   |
| Density and/or relative density                          | 1.768                                                            |
| Relative vapour density                                  | no data available                                                |
| Particle characteristics                                 | no data available                                                |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Incompatible with/ strong oxidizing agents.

### 10.6 Hazardous decomposition products

no data available

## SECTION 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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## SECTION 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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## SECTION 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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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### 14.2 UN Proper Shipping Name

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### 14.3 Transport hazard class(es)

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### 14.4 Packing group, if applicable

ADR/RID: no data available

IMDG: no data available

IATA: no data available

### 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 IMO instruments

no data available

### SECTION 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   |
|--------------------------------------------------------------------------|--------------------------------------------|------------|-------------|
| 4-O-β-D-galactopyranosyl-β-D-glucopyranose                               | 4-O-β-D-galactopyranosyl-β-D-glucopyranose | 5965-66-2  | 227-751-9   |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                                            |            | Listed.     |
| EC Inventory                                                             |                                            |            | Listed.     |
| United States Toxic Substances Control Act (TSCA) Inventory              |                                            |            | Listed.     |
| China Catalog of Hazardous chemicals 2015                                |                                            |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               |                                            |            | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                                            |            | Not Listed. |
| Vietnam National Chemical Inventory                                      |                                            |            | Not Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                                            |            | Not Listed. |
| Korea Existing Chemicals List (KECL)                                     |                                            |            | Listed.     |

### SECTION 16: Other information

#### Information on revision

Creation Date July 15, 2024  
Revision Date January 13, 2025

#### 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/>

Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)

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