



G-Biosciences, St Louis, MO, USA ♦ 1-800-628-7730 ♦ 1-314-991-6034 ♦ technical@GBiosciences.com

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Neutralizer™

Cat. # 786-603



think proteins! think G-Biosciences!

www.GBiosciences.com



alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 2/25/2016 Revision date: 1/17/2025 Supersedes: 1/14/2025 Version: 10.0

SECTION 1 Identification

1.1. Product identifier

Product form : Substance
Substance name : alpha-cyclodextrin
Chemical name : alpha-cyclodextrin
CAS-No. : 10016-20-3
Product code : 048I
Formula : C36H60O30
BIG No : 26704

1.2. Other means of identification

Synonyms : alpha-cycloamylose / alpha-cyclodextrin / alpha-dextrin / alpha-schardinger dextrin /
cyclohexaamylose / cyclomaltohexaose / cyclomaltohexose / schardinger alpha-dextrin
EC-No. : 233-007-4

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

G-Biosciences/ Geno Technology, Inc.
9800 Page Avenue
St. Louis, MO 63132-1429, USA
Tel.1-800-628-7730
www.GBiosciences.com

1.5. Emergency phone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. Label elements

GHS US labeling

No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3 Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
alpha-cyclodextrin (Main constituent)	alpha-cycloamylose / alpha-cyclodextrin / alpha-dextrin / alpha-schardinger dextrin / cyclohexaamylose / cyclomaltohexaose / cyclomaltohexose / schardinger alpha-dextrin	CAS-No.: 10016-20-3	100	Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: If you feel unwell, consult a doctor/medical service.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center/doctor/physician if you feel unwell.
Self protection of the first-aider	: First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: No effects known.
Symptoms/effects after inhalation	: No effects known.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: No effects known.
Symptoms/effects after ingestion	: No effects known.
Chronic symptoms	: No effects known.

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

Other medical advice or treatment : Treat symptomatically.

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Not classified as flammable. Most organic solids may burn if strongly heated. INDIRECT FIRE HAZARD: Heating increases the fire hazard.
Explosion hazard : DIRECT EXPLOSION HAZARD: Most organic solids are liable to dust explosion hazard.
INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions : No specific fire-fighting instructions required.
Protection during firefighting : Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

For non-emergency personnel

Protective equipment : Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137).
Emergency procedures : Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.
Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate area. Evacuate unnecessary personnel.
Environmental precautions : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up : Stop dust cloud by humidifying. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information : Dispose of materials or solid residues at an authorized site.

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Keep container tightly closed. Powdered form: no compressed air for pumping over.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including incompatibilities

Technical measures	: Keep in a cool, well-ventilated place away from heat.
Storage conditions	: Store in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Storage area	: Meet the legal requirements. Store at room temperature. Store in a dry area.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.
Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents.
Heat-ignition	: KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Special rules on packaging	: SPECIAL REQUIREMENTS: closing. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: glass.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:
Gloves. Wear protective gloves.
Eye protection:
Chemical goggles or safety glasses. Safety glasses
Skin and body protection:
Protective clothing
Respiratory protection:
Dust production: dust mask with filter type P1. Wear appropriate mask

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Crystalline powder.
Color	: White
Odor	: Almost odourless
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable (decomposes)
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: < 0.01 hPa (MPBPWin v1.43, EpiSuite)
Relative vapor density at 20°C	: Not applicable
Relative density	: No data available
Molecular mass	: 972.86 g/mol
Solubility	: Soluble in water. Water: 12 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: -7.77 (Calculated, KOWWIN)
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 277 °C (EU Method A.1: Melting/freezing point)
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

VOC content : 0 %

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products. fume. Carbon monoxide. Carbon dioxide.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

alpha-cyclodextrin (10016-20-3)

Viscosity, kinematic	Not applicable
----------------------	----------------

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: No effects known.
Symptoms/effects after inhalation	: No effects known.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: No effects known.
Symptoms/effects after ingestion	: No effects known.
Chronic symptoms	: No effects known.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - air	: Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 2024/573). Not classified as dangerous for the ozone layer (Regulation (EC) No 2024/590).
Ecology - water	: Slightly harmful to crustacea. Slightly harmful to fishes. Slightly harmful to algae.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

alpha-cyclodextrin (10016-20-3)

LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
-----------------	--

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

alpha-cyclodextrin (10016-20-3)

EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
----------------------	---

12.2. Persistence and degradability

alpha-cyclodextrin (10016-20-3)

Persistence and degradability	Readily biodegradable in water.
-------------------------------	---------------------------------

12.3. Bioaccumulative potential

alpha-cyclodextrin (10016-20-3)

Partition coefficient n-octanol/water (Log Pow)	-7.77 (Calculated, KOWWIN)
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

alpha-cyclodextrin (10016-20-3)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-4.83 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No
Other information	: Avoid release to the environment.

SECTION 13 Disposal considerations

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Waste treatment methods.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Remove waste in accordance with local and/or national regulations. Remove to an authorized waste treatment plant.
Additional information	: Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.
Ecological waste information	: Avoid release to the environment.

SECTION 14 Transport information

In accordance with DOT / TDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IATA)	: Not regulated

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

TDG

Transport hazard class(es) (TDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IATA) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

No data available

TDG

No data available

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
alpha-cyclodextrin	10016-20-3	Present		

15.2. International regulations

CANADA

alpha-cyclodextrin (10016-20-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

No additional information available

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 16 Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 1/17/2025
Date of issue : 2/25/2016
Other information : None.

Abbreviations and acronyms	
ACGIH	American Conference of Government Industrial Hygienists
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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified

alpha-cyclodextrin

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Abbreviations and acronyms	
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

NFPA health hazard

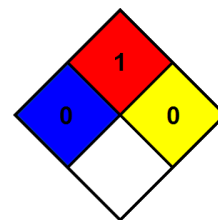
: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 1 - Materials that must be preheated before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.