

BREWERS CLAREX®**DFSC_0000138**

Version 1.3

Revision Date 12/21/2023

Date of last issue: 06/28/2023

SECTION 1. IDENTIFICATION

Product name : BREWERS CLAREX®

Manufacturer or supplier's details

Company name of supplier : DSM Food Specialties B.V.

Address : P.O. Box 1
Delft 2600 MA

Telephone : +31 15 279 2911

Emergency telephone number : +41 848 00 11 77 (Carechem 24 International)

E-mail address of person responsible for the SDS : sds.nutritionalproducts@dsm.com

Recommended use of the chemical and restrictions on use

Recommended use : For use in food industry

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Respiratory sensitisation : Category 1

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements : **Prevention:**
P261 Avoid breathing mist or vapours.
P285 In case of inadequate ventilation wear respiratory protection.**Response:**P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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Synonyms : I.U.B No.: 3.4.23.18 (CAS 9001-92-7 protease)

Brief description of the product : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
glycerol	56-81-5	>= 50 - < 70
proteinase	9001-92-7	>= 5 - < 10

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Inhalation may provoke the following symptoms:
Allergic reactions
Asthma
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Alcohol-resistant foam
Dry chemical
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Specific hazards during fire-fighting : None known.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Use personal protective equipment.
Ensure adequate ventilation.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.
Avoid formation of dust and aerosols.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge.
Product will burn under fire conditions.
- Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Avoid contact with skin and eyes.
For personal protection see section 8.
Avoid formation of aerosol.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Smoking, eating and drinking should be prohibited in the application area.
- Conditions for safe storage : Keep container tightly closed and dry.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- To maintain product quality, do not store in heat or direct sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (mist, total dust)	15 mg/m ³	OSHA Z-1
proteinase	9001-92-7	STEL (Total dust)	0.000060 mg/m ³	DSM Internal Limit
Further information: Derived minimal effect level				

Personal protective equipment

- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
Suitable mask with particle filter P3 (European Norm 143)
- Hand protection

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Remarks	: Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves. Glove material: for example nitrile rubber
Eye protection	: Safety glasses with side-shields
Skin and body protection	: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Avoid contact with skin, eyes and clothing. Do not breathe vapours, aerosols.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance	: liquid
Colour	: colourless - brown - (Product colour may vary from batch to batch)
Odour	: slight fermentation odor
Odour Threshold	: No information available.
pH	: 3 - 6
Melting point/range	: not determined
Boiling point/boiling range	: not determined
Flash point	: ca. 428 °F (220 °C) boils before flash
Evaporation rate	: not determined
Lower explosion limit	: not determined
Upper explosion limit	: not determined
Vapour pressure	: not determined
Relative vapour density	: Not applicable
Density	: not determined
Water solubility	: not determined
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: No data available
Auto-ignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity, kinematic	: not determined
Explosive properties	: Not explosive
Oxidizing properties	: No data available

Other information

No data available

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No hazards to be specially mentioned.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Possible incompatibility with materials listed under section 10.5.
Conditions to avoid	: Heat
Incompatible materials	: Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	: No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	: Skin Absorption
Acute oral toxicity	: Acute toxicity estimate : > 5,000 mg/kg (Calculation method)
Skin irritation	: Prolonged skin contact may cause skin irritation.
Eye irritation	
proteases	: Irritating to eyes.
Sensitisation	
proteases	: May cause sensitisation by inhalation.
Genotoxicity in vitro	: No indication for mutagenicity known.
Carcinogenicity	: No indication for carcinogenicity known.
IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Reproductive toxicity	: No indication for adverse effects on fertility known.
STOT - single exposure (Acute exposure)	: The substance or mixture is not classified as specific target organ toxicant, single exposure.

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STOT - repeated exposure : This information is not available.

Aspiration toxicity : No aspiration toxicity classification

Experience with human exposure**Components:****proteinase:**

Inhalation : Remarks: Inhalation may induce sensitization and may cause allergic reactions in sensitized individuals.

SECTION 12. ECOLOGICAL INFORMATION**Toxicity**

No data is available on the product itself.

Persistence and degradability

No data is available on the product itself.

Bioaccumulative potential

Bioaccumulation : No data available

Partition coefficient: n-octanol/water : Not applicable

Mobility in soil

Distribution among environmental compartments : No data available

Other adverse effects**Product:**Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.

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Offer surplus and non-recyclable solutions to a licensed disposal company.

User must determine if any wastes generated exhibit hazardous characteristics as per 40 CFR Part 261 or other national / local legislation.

Contaminated packaging : Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

National Regulations**49 CFR**

Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Respiratory or skin sensitisation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

glycerol	56-81-5	>= 50 - < 70 %
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Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations**Massachusetts Right To Know**

glycerol	56-81-5
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Pennsylvania Right To Know

glycerol	56-81-5
water	7732-18-5
proteinase	9001-92-7

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

The components of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: All components are listed on the inventory, regulatory obligations/restrictions apply
DSL	: All components of this product are on the Canadian DSL
ENCS	: Not in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
TECI	: On the inventory, or in compliance with the inventory

TSCA list

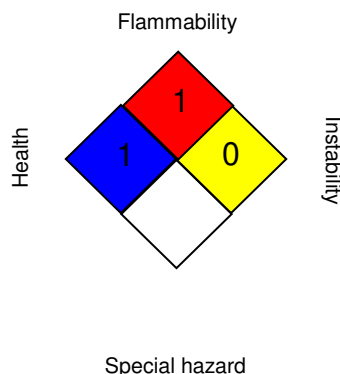
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	1
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

Límite de DSM / STEL : Valor límite de exposición a corto plazo

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Sub-

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stance Inventory; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative
ACGIH = American Conference of Governmental Industrial Hygienists. CFR = Code of Federal Regulations. EPA = Environmental Protection Agency. NIOSH = National Institute of Occupational Safety and Health. OSHA = Occupational Safety and Health Administration. STEL = Short term exposure limit. TLV = Threshold Limit Value. TLV-C = Ceiling Limit Value. TWA = Time Weighted Average.

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

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