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1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : collapeptyl™ biofunctional
Description : biofunctional
™ Trademark, Ashland or its subsidiaries, registered in various countries

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

Recommended use : biofunctional
Cosmetics
Personal care

Details of the supplier of the safety data sheet Ashland P.O. Box 2219 Columbus, OH 43216 United States of America (USA) 1-614-790-3333 (USA) EHSProductSafety@ashland.com	Emergency telephone 1-800-ASHLAND (1-800-274-5263) Product Information 1-614-790-3333 (USA)
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2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Other hazards which do not result in classification


No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
1,2-PENTANEDIOL	5343-92-0	>= 3 -< 5
levulinic acid	123-76-2	>= 0,5 -< 1


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4. FIRST AID MEASURES

General advice	: Do not leave the victim unattended.
If inhaled	: If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: Wash off with soap and plenty of water.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	: None known.
Notes to physician	: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting	: No information available.
Hazardous combustion products	: Carbon dioxide (CO ₂) Carbon monoxide Nitrogen oxides (NO _x) Aldehydes
Specific extinguishing methods	: Standard procedure for chemical fires. Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus for firefighting if necessary.

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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions :
Do not allow uncontrolled discharge of product into the environment.
- Methods and materials for containment and cleaning up : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE


- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
- Conditions for safe storage : Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage conditions : Keep container tightly closed in a dry and well-ventilated place.
Store at room temperature in the original container.
Keep in a dry, cool place.
Keep away from direct sunlight.
- Materials to avoid : No materials to be especially mentioned.
- Further information on storage stability : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

- Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or

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apparent adverse effects.

Personal protective equipment

Respiratory protection	: In the case of vapour formation use a respirator with an approved filter within the capabilities of the respirator/filter combination. Where concentrations are above recommended limits or are unknown, or a cartridge type respirator is not adequate, wear a positive-pressure supplied-air respirator.
Hand protection	
Material	: butyl-rubber
Break through time	: 480 min
Glove thickness	: > 0,5 mm
Remarks	: The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection	: Safety glasses
Skin and body protection	: Work uniform or laboratory coat.
Hygiene measures	: General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES


Appearance	: gel
Color	: No data available
Odor	: No information available.
Odor Threshold	: No data available
pH	: 4,5 - 5,5
Melting point/freezing point	: not determined
Boiling point/boiling range	: not determined
Flash point	: > 400 °F

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Evaporation rate	: not determined
Flammability (solid, gas)	: not determined
Flammability (liquids)	: not determined
Self-ignition	: not determined
Upper explosion limit / Upper flammability limit	: not determined
Lower explosion limit / Lower flammability limit	: not determined
Vapor pressure	: not determined
Relative vapor density	: not determined
Relative density	: No data available
Density	: not determined
Solubility(ies)	
Water solubility	: not determined
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: not determined
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: not determined
Viscosity, kinematic	: not determined
Oxidizing properties	: Not applicable
Molecular weight	: No data available
Particle size	: Not applicable

10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
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Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No hazards to be specially mentioned. No dangerous reaction known under conditions of normal use.
Conditions to avoid	: Protect from frost, heat and sunlight.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: Carbon monoxide Carbon dioxide (CO ₂)

11. TOXICOLOGICAL INFORMATION

Routes of exposure	:	Inhalation Eye contact Skin contact Ingestion
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Acute toxicity

Not classified due to lack of data.

Product:

Acute dermal toxicity	:	Acute toxicity estimate: > 5.000 mg/kg Method: Calculation method
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Components:


1,2-PENTANEDIOL:

Acute oral toxicity	:	LD50 (Rat): > 5.000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 7.015 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Acute dermal toxicity	:	LD50 (Rat): > 2.000 mg/kg Method: OECD Test Guideline 402
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levulinic acid:

Acute oral toxicity	:	LD50 (Rat, female): > 300 - < 2.000 mg/kg
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2.000 mg/kg Method: OECD Test Guideline 402

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Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Method : OECD Test Guideline 439
Result : No skin irritation

Components:

1,2-PENTANEDIOL:

Result : Slight, transient irritation

levulinic acid:

Method : OECD Test Guideline 439
Result : No skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Result : No eye irritation
Method : EpiOcular

Components:

1,2-PENTANEDIOL:

Result : Corrosive

levulinic acid:

Result : Corrosive
Method : OECD Test Guideline 437

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.


Respiratory sensitization

Not classified due to lack of data.

Product:

Species : Humans
Method : Human repeat insult patch test (HRIPT)
Result : Not a skin sensitizer.
Remarks : Expert judgment

Test Type : KeratinoSens assay

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: OECD Test Guideline 442D
: Not a skin sensitizer.

: Human Cell Line Activation Test (h-CLAT)
: OECD Test Guideline 442E
: Not a skin sensitizer.

Components:

1,2-PENTANEDIOL:

Assessment : Did not cause sensitization on laboratory animals.
Result : Did not cause sensitization on laboratory animals.

levulinic acid:

Method : OECD Test Guideline 442B
Result : May cause sensitization by skin contact.
Remarks : May cause allergic skin reaction.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

1,2-PENTANEDIOL:

Genotoxicity in vitro : Remarks: In vitro tests did not show mutagenic effects

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT-single exposure

Not classified due to lack of data.

STOT-repeated exposure

Not classified due to lack of data.


Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

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12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50: > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 249

Components:

1,2-PENTANEDIOL:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 1.096 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 500 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae/aquatic plants : EC50 (green algae): 9.335 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test

levulinic acid:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.038,622 mg/l
Exposure time: 48 h
Test Type: static test
Method: QSAR


Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (microalgae)): 375,014 mg/l
Exposure time: 72 h
Test Type: static test
Method: QSAR

Persistence and degradability

Components:

1,2-PENTANEDIOL:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 73 %

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Exposure time: 28 d
Method: OECD Test Guideline 301E
Remarks: The 10 day time window criterion is not fulfilled.

levulinic acid:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: > 60 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

1,2-PENTANEDIOL:

Partition coefficient: n-octanol/water : log Pow: 0,06 (25 °C)

levulinic acid:

Partition coefficient: n-octanol/water : log Pow: -0,497 (20 °C)
Method: OECD Test Guideline 107

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : No data available

Components:


1,2-PENTANEDIOL:

Results of PBT and vPvB assessment : Substance is not persistent, bioaccumulative, and toxic (PBT).
Substance is not very persistent and very bioaccumulative (vPvB).

13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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14. TRANSPORT INFORMATION

International transport regulations

REGULATION

ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT / LTD. QTY.
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UN_DG

Not dangerous goods

INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Marine pollutant	no
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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

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


Law on Chemicals No. 06/2007/QH12

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

TCSI : Not in compliance with the inventory

TSCA : For Cosmetic Use Only

AIIC : Not in compliance with the inventory

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DSL	: This product contains components that are not on the Canadian DSL nor NDSL.
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Low volume exemption, On the inventory, or in compliance with the inventory


16. OTHER INFORMATION

Further information

Other information	: This sds has been prepared by Ashland. (http://www.ashland.com)
Sources of key data used to compile the Material Safety Data Sheet	: Ashland internal data including own and sponsored test reports European Union Law with content from the Official Journal of the European Union. European Chemicals Agency; the EU authority implementing the EU's chemicals legislation for companies. The German Water Hazard Classes. ReachCentrum; a series of support services to help comply with REACH regulations. The European Commission; proposing legislation, administering and implementing EU policies, and enforcing EU law. The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport. Cefic, the European Chemical Industry Council. ESIS European Chemical Substances Information System
Date format	: yyyy/mm/dd

Full text of H-Statements

H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.

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Full text of other abbreviations

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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.

VN / EN

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