

Safety Data Sheet

according to 1907/2006/EC, Article 31

Trade name: **Azelaic Acid**

Version: 5

Revision: 2020.10.28

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	Azelaic Acid
CAS number	123-99-9

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

Recommended Use	SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites SU21 Consumer uses: Private households/general public/consumers SU22 Professional uses
Uses advised against	Not determined
Product category	Not determined
Process category	Not determined

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier
CORUM INC.
6FL., No.360, Ruei Guang Rd.,
Neihu Dist, Taipei 11492, Taiwan
Further information obtainable from
marketing.support@corum.com.tw

1.4 Emergency telephone number

Company phone number	CORUM Tel. 886-2-8751-6060 Fax. 886-2-8751-6363
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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

2.2 Label elements

Label according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard Pictograms



GHS07

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Signal word

Warning

Hazard statements

H315 causes skin irritation

H319 causes serious eye irritation

Precautionary statements

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P264

Wash thoroughly after handling.

P302+P352

If on skin: wash with plenty of water.

P305+P351+P338

If in eyes: rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P332+P313

If skin irritation occurs: Get medical advice/attention.

P337+P313

If eye irritation persists: Get medical advice/attention.

P321

Specific treatment (see on this label).

2.3 Other hazards**Results of PBT and vPvB assessment**

Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Chemical characterization:** Substances**3.2 Composition/information on ingredients**

Chemical Name	CAS No.	EC No.
Nonanedioic acid (azelaic acid)	123-99-9	204-669-1

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures****General information**

Take affected persons out into the fresh air.
Do not leave affected persons unattended.
Seek medical treatment.

After inhalation

If breathing, move person into fresh air. If not breathing, give artificial respiration. Call a doctor immediately.

After skin contact

Immediately rinse with water. Remove contaminated clothing and shoes. Wash clothing before reuse.

After eye contact

Immediately flush eyes with copious amounts of water for at least 15 minutes. Dust and process vapors may cause eye irritation.

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After swallowing

Do not induce vomiting; call for medical help immediately.
If a person is vomiting, place him in the recovery position.

4.2 Most important symptoms and effects, both acute and delayed**Symptoms**

Temporary skin irritation (pruritus, burning or and stinging)
If sensitivity or severe irritation develop with the use/exposure of the substance, look for appropriate treatment. Eye irritation

4.3 Indication of any immediate medical attention and special treatment needed**Note to physicians**

No further relevant information available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media**Suitable extinguishing media**

Use fire extinguishing methods suitable to surrounding conditions.

SMALL FIRE: Dry powder or carbon dioxide (CO₂) extinguisher, dry sand or fire fighting foam

LARGE FIRE: Use water spray, water fog or foam. DO NOT use direct water jet.

Unsuitable extinguishing media

Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

Carbon dioxide (CO₂)

Carbon monoxide (CO)

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Additional Information

Combustible powder

Cool endangered receptacles with water spray

See section 9: information on powder explosibility

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation Avoid formation of dust.

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

6.2 Environmental precautions

Do not allow to enter sewers/surface or ground water.

6.3 Methods and material for containment and cleaning up

* Small spillage:

Pick up mechanically using appropriate tools Clean the area with water.

Dispose of the material collected according to regulations.

* Large spillage:

Large spills may be shoveled into containers.

Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the wastewater collection system.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 Precaution for safe handling**Advice on safe handling**

Prevent formation of dust.

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Protect from heat.

Keep ignition sources away - Do not smoke.

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

Store only in unopened original receptacles.

Store in a cool location. Keep container tightly sealed. Protect from heat and direct sunlight.

Incompatible materials

Store away from oxidizing agents.

Storage class (VbF)

No

7.3 Specific end use(s)

No further relevant information available

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters**Exposure limits**

Not required

DNEL

Not determined

PNEC

Not determined

Additional information

The valid lists during this review were used as a basis.

8.2 Exposure controls

Personal protective equipment

Respiration protection

Use suitable respiratory protective device in case of insufficient ventilation. Recommended exposure limits have not been established for this material. Whether there is a need for respiratory protection under court conditions of handling of this material should be evaluated by a qualified health specialist.

Hands protection



Protective gloves

The glove material has to be impermeable and resistant to the product/the substance/the preparation. Due to missing tests no recommendation to the glove material can be given for the product/the preparation/the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection



Tightly sealed goggles

Wear safety glasses meeting the specifications of ansi standard Z87.1 where no contact with the eye is anticipated. Chemical safety goggles meeting the specifications of ansi standard Z87.1 should be worn whenever there is the possibility of splashing or other contact with the eyes.

General protective measure

Avoid contact with the eyes and skin.

General hygiene measure

Do not inhale dust/smoke/mist.

All skin and mucous membranes with potential exposure have to be protected with appropriate PPE.

Environmental exposure controls

No further relevant information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on basic physical and chemical properties

Physical State	Powder
Appearance	Powder
Color	White
Odor	Characteristic
Odor threshold	Not determined

Property

pH value (5%)	Not determined
Melting point/Melting range	105-109 °C
Boiling point/Boiling range	>360°C
Flash point	210°C
Flammability (solid, gaseous)	Product is not flammable.
Ignition temperature	Not determined
Decomposition temperature	Not determined
Self-igniting	Not determined
Danger of explosion	Product does not present an explosion hazard.
Explosion limit	
Lower	Not determined
Upper	Not determined
Oxidizing properties	Not determined
Explosive properties	Not determined
Vapor pressure	<1.33 hPa
Vapor density	1.03 g/cm ³
Relative density	Not determined
Evaporation rate	Not determined
Solubility	Soluble
	Water-0.24 g/l at 27°C
	Alcohol N.D. g/l (SOLUBLE) at 20°C

Partition coefficient (n-octanol/water at 25 °C)	1.7 log POW (KOWWIN v1.68 estimate)
Kinematic Viscosity	Not applicable
Dynamic Viscosity	Not applicable

9.2 Other information

Surface tension	Not applicable
Dissociation constant	pKa: 4.55 International Union of Pure and Applied chemistry London: Butterworth (1961), cited in HSDB
Granulometry	Not determined
Additional information	Azelaic acid powder explosibility data (test results for 0.75 micron powder) Minimum oxygen for combustion (MOC): 11.59 % Minimum Ignition Energy: 5-10 mJ Maximum explosion pressure (Pmax): 7.7 bar Maximum rate of pressure rise (DP/DT Max): 665 bar/sec

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SECTION 10: STABILITY AND REACTIVITY
10.1 Reactivity

Not determined

10.2 Chemical stability

The product is stable under ordinary condition.

Thermal decomposition/conditions to be avoided

No decomposition if used according to specifications

10.3 Possibility of hazardous reactions

No dangerous reactions known

10.4 Conditions to avoid

See Section 7 for information on safe handling.

10.5 Incompatible materials

See Section 7 for information on safe handling.

10.6 Hazardous decomposition products

No dangerous decomposition products known

SECTION 11: TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects**Acute toxicity****LD/LC50 values relevant for classification**

	Effect dose/concentration	Value	Species
Substance 123-99-9 azelaic acid			
Acute oral toxicity	LD50	>10000mg/kg bw	rat

Primary Irritant effect**Skin corrosion/irritation**

Irritant to skin

Skin irritation has been reported in exposure to animals and workers handling azelaic acid (peer reviewed database). Bingham, E.; Cohrssen, B.; Powell, C.H.; Patty's Toxicology Volumes 1-9 5th ed. ohn Wiley & Sons. New York, N.Y. (2001)., p. 5:772] Causes skin irritation.

Serious eye damage/irritation

Eye irritation has been reported in exposure to animals and workers handling azelaic acid (peer reviewed database). Bingham, E.; Cohrssen, B.; Powell, C.H.; Patty's Toxicology Volumes 1-9 5th ed. ohn Wiley & Sons. New York, N.Y. (2001)., p. 5:772] Causes serious eye irritation.

Respiratory tract

Not determined

Respiratory/skin sensitization

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

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Additional toxicological information

Toxicokinetics, metabolism and distribution	Azelaic acid is excreted through urine (mean of 76.9% of infused dose). Reported in HDSB, Bertuzzi A et al; Clin Pharmacokinet 20 (5):411-9 (1991)
Repeated dose toxicity	Not determined
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)	
Germ Cell mutagenicity	Azelaic acid was not mutagenic in an Ames Salmonella test, Chinese hamster ovary HGPRT mutation assay.
Carcinogenicity	Not determined
Reproductive toxicity	Not determined
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity

Substance 123-99-9 azelaic acid		
Effect dose/concentration	Value	Species
ChV	259 mg/L	Algae (Predicted by ECOSAR v 1.11)
	143 mg/L	Daphnia (Predicted by ECOSAR v 1.11)
	271 mg/L	Fish (Predicted by ECOSAR v 1.11)
EC50/96h	1053 mg/L	Algae (Predicted by ECOSAR v 1.11)
LC50/48h	1586 mg/L	Daphnia (Predicted by ECOSAR v 1.11)
LC50/96h	2872 mg/L	Fish (Predicted by ECOSAR v 1.11)

12.2 Persistence and degradability

Readily biodegradable

The substance does not contain chromophores that absorb at wavelengths > 290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight.

12.3 Bioaccumulative potential

BCF: 3,162 L/kg ww or dimensionless

The estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.

12.4 Mobility in soil

log Koc: 2,168

If released to soil, the substance is expected to have moderate mobility based upon an estimated Koc of 147.

The pKa of the substance is 4.55, indicating that this compound will exist almost entirely in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts.

Additional ecological information

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

No further relevant information available

SECTION 13: DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods**Recommendation**

Smaller quantities can be disposed of with household waste.

13.2 Uncleaning packaging**Recommendation**

Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION
14.1 UN-Number

ADR/RID

Not applicable

ADN

Not applicable

IMDG

Not applicable

IATA

Not applicable

14.2 UN proper shipping name

ADR/RID

Not applicable

ADN

Not applicable

IMDG

Not applicable

IATA

Not applicable

14.3 Transport hazard class(es)

ADR/RID

Not applicable

ADN

Not applicable

IMDG

Not applicable

IATA

Not applicable

14.4 Packing group

ADR/RID

Not applicable

ADN

Not applicable

IMDG

Not applicable

IATA

Not applicable

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- 14.5 Environmental hazard**
Marine pollutant No
- 14.6 Special precautions for user**
Special precaution for user Not applicable
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
Not applicable
- 14.8 ICAO/IATA – DGR**
Not regulated as dangerous good

SECTION 15: REGULATORY INFORMATION

- 15.1 Safe, health and environmental regulations/legislation specific for the substance or mixture**
- Inventory - United States - Toxic Substances Control Act (TSCA)**
Substance is listed.
- Inventory - Canada - Domestic Substances List (DSL)**
Substance is listed.
- Inventory - Canada – Non-Domestic Substances List (NDSL)**
Substance is not listed.
- European Inventory of Existing Chemical Substances (EINECS)**
Substance is listed.
- Japan Existing and New Chemical Substances (ENCS)**
Substance is listed.
- China Inventory of Existing Chemical Substance (IECSC)**
Substance is listed.
- Korean Existing and Evaluated Chemical Substances (KECL)**
Substance is listed.
- Philippines Inventory of Chemicals and Chemical Substances (PICCS)**
Substance is listed.
- Australian Inventory of Chemical Substances (AICS)**
Substance is listed.
- National regulations**
Other regulations, limitations and prohibitive regulations
Not determined
- Substances of very high concern (SVHC) according to REACH, Article 59(10)**
Not determined
- 15.2 Chemical safety assessment**
A chemical safety assessment has not been carried out.
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SECTION 16: OTHER INFORMATION

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Abbreviations and acronyms

NOAEL: Non Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
NOEC: No Observed Effect Concentration
GHS: Globally Harmonized System of Classification and Labeling Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstract Service (division of the American Chemical Society)
VbF: Ordinance on the storage of combustible liquids, Austria
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
SVHC: Substances of Very High Concern
PBT: Persistent Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
STOT: Specific Target Organ Toxicity
ADR: Agreement on Dangerous Goods by Road
RID: Regulations concerning the Intl Transport of Dangerous Goods by Rail
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Dangerous Goods
IATA: International Air Transport Association
BCF: Bioconcentration Factor
ChV: Fish Chronic Toxicity Value

Sources

Own data from manufacture
Chemical safety report according to REACH registration dossier