Natural E-AD

Safety Data Sheet

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 1/23/2025 Revision date: 1/23/2025 Supersedes: 1/23/2025 Version: 2.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Natural E-AD
Product code : 09063

1.2. Other means of identification

Part Number(s) : 09063

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Injectable solution
Restrictions on use : For animal use only

1.4. Supplier's details

Supplier
Neogen Corporation
620 Lesher Place
Lansing, Michigan 48912
United States of America
T 800.234.5333
sds@neogen.com - https://www.neogen.com/

Manufactured for
Neogen Corporation
944 Nandino
Lexington, Kentucky 40511
U.S.A.
T 859-254-1221
NEOGEN.com

1.5. Emergency phone number

Emergency number : 24 hours:
Medical: 1-800-498-5743 (U.S. and Canada) or 1-651-523-0318 (international)
Spill/CHEMTREC: 1-800-424-9300 (U.S. and Canada) or 1-703-527-3887 (international)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 2	H319	Causes serious eye irritation.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Reproductive toxicity, Category 1B	H360	May damage fertility or the unborn child.
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402	Harmful to aquatic life.
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412	Harmful to aquatic life with long lasting effects.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H360 - May damage fertility or the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, vapors, spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves.
P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice or attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P337+P313 - If eye irritation persists: Get medical advice or attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

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

77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)
77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)
77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
d-α-Tocopherol	CAS-No.: 59-02-9	25 – 50	Aquatic Acute 3, H402 Aquatic Chronic 3, H412

Name	Product identifier	%	GHS US classification
N-Methyl-2-pyrrolidinone	CAS-No.: 872-50-4	15 – 25	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360 STOT SE 3, H335 STOT RE 2, H373
Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs.	CAS-No.: 9005-65-6	15 – 25	Aquatic Acute 3, H402 Aquatic Chronic 3, H412
Retinyl propionate	CAS-No.: 7069-42-3	1 – 5	Aquatic Chronic 4, H413
Benzyl alcohol	CAS-No.: 100-51-6	1 – 5	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Skin Sens. 1B, H317

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

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Eye irritation.

Symptoms/effects after ingestion : None under normal conditions.

Chronic symptoms : May damage fertility or the unborn child.

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

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

Environmental precautions : Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Packaging materials : Store always product in container of same material as original container.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

N-Methyl-2-pyrrolidinone (872-50-4)	
USA - ACGIH - Biological Exposure Indices	
Local name	N-Methyl-2-pyrrolidone
BEI	100 mg/l Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone - Medium: urine - Sampling time: End of shift
Regulatory reference	ACGIH 2024
USA - Cal/OSHA - Occupational Exposure Limits	
Local name	N-Methylpyrrolidone (NMP); 1-Methyl-2-pyrrolidone; N-Methyl-2-pyrrolidone; 1-Methyl-2-pyrrolidinone
Cal/OSHA PEL (OEL TWA)	4 mg/m³
	1 ppm
Remark (Cal/OSHA)	S - Skin notation and Protecting Clothing
Regulatory reference	California Division of Occupational Safety and Health (Cal/OSHA) - Permissible Exposure Limit for Chemical Contaminants (Table AC-1)

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:
Wear recommended personal protective equipment.

Hand protection:
Protective gloves

Eye protection:
Safety glasses

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid

Color	:	Clear brown
Odor	:	alcoholic
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	0.97
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Explosion limits	:	No data available
Particle characteristics	:	No data available

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

No additional information available

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.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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

Natural E-AD	
Unknown acute toxicity (GHS US)	77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 77.97% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

d-α-Tocopherol (59-02-9)	
LD50 oral rat	> 15000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))

N-Methyl-2-pyrrolidinone (872-50-4)	
LD50 oral rat	4150 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	3500 mg/kg
LD50 dermal rat	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal	6000 mg/kg
LC50 Inhalation - Rat	> 5.1 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	5.1 mg/l/4h
LC50 Inhalation - Rat (Vapors)	> 5.1 mg/l/4h
ATE US (oral)	3500 mg/kg body weight
ATE US (dermal)	6000 mg/kg body weight
ATE US (dust, mist)	5.1 mg/l/4h

Retinyl propionate (7069-42-3)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)

Benzyl alcohol (100-51-6)	
LD50 oral rat	1620 mg/kg bw/day (Rat, Male, Experimental value, Oral, 14 day(s))
LD50 oral	1580 mg/kg body weight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1410 - 1770
LD50 dermal rat	2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg body weight (EPA OTS 798.1100, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LD50 dermal	2000 mg/kg
LC50 Inhalation - Rat	> 4.18 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, (maximum achievable concentration), Inhalation (mist), 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	4.178 mg/l/4h
LC50 Inhalation - Rat (Vapors)	> 4178 mg/l/4h
ATE US (oral)	1580 mg/kg body weight
ATE US (dermal)	2000 mg/kg body weight
ATE US (gases)	4500 ppmV/4h

Benzyl alcohol (100-51-6)	
ATE US (vapors)	11 mg/l/4h
ATE US (dust, mist)	4.178 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

d-α-Tocopherol (59-02-9)	
pH	No data available in the literature

N-Methyl-2-pyrrolidinone (872-50-4)	
pH	No data available in the literature

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
pH	5 – 7 (5 %)

Benzyl alcohol (100-51-6)	
pH	No data available in the literature

Serious eye damage/irritation : Causes serious eye irritation.

d-α-Tocopherol (59-02-9)	
pH	No data available in the literature

N-Methyl-2-pyrrolidinone (872-50-4)	
pH	No data available in the literature

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
pH	5 – 7 (5 %)

Benzyl alcohol (100-51-6)	
pH	No data available in the literature

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

N-Methyl-2-pyrrolidinone (872-50-4)	
NOAEL (chronic,oral,animal/male,2 years)	≈ 89 mg/kg body weight Animal: mouse, Animal sex: male, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity)
NOAEL (chronic,oral,animal/female,2 years)	≈ 221 mg/kg body weight Animal: mouse, Animal sex: female, Guideline: OECD Guideline 451 (Carcinogenicity Studies), Guideline: EU Method B.32 (Carcinogenicity Test), Guideline: EPA OTS 798.3300 (Carcinogenicity)

Reproductive toxicity : May damage fertility or the unborn child.

N-Methyl-2-pyrrolidinone (872-50-4)	
LOAEL (animal/female, F0/P)	500 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)
NOAEL (animal/male, F0/P)	≥ 500 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

N-Methyl-2-pyrrolidinone (872-50-4)	
NOAEL (animal/female, F0/P)	350 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study)

STOT-single exposure : May cause respiratory irritation.

N-Methyl-2-pyrrolidinone (872-50-4)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

d-α-Tocopherol (59-02-9)	
NOAEL (oral,rat,90 days)	500 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

N-Methyl-2-pyrrolidinone (872-50-4)	
LOAEL (dermal,rat/rabbit,90 days)	1653 mg/kg body weight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral,rat,28 days)	820 mg/kg bw/day
NOAEL (dermal,rat/rabbit,28 days)	< 413 mg/kg bw/day
NOAEC (inhalation, rat, 28 days)	0.1 mg/l
NOAEL (oral,rat,90 days)	169 mg/kg bw/day
NOAEL (dermal,rat/rabbit,90 days)	826 mg/kg body weight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEC (inhalation, rat, 90 days)	0.5 mg/l
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Benzyl alcohol (100-51-6)	
NOAEL (oral,rat,90 days)	400 mg/kg body weight Animal: rat, Guideline: other:

Aspiration hazard : Not classified

d-α-Tocopherol (59-02-9)	
Viscosity, kinematic	No data available in the literature
N-Methyl-2-pyrrolidinone (872-50-4)	
Viscosity, kinematic	No data available in the literature
Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
Viscosity, kinematic	462.963 – 46648.148 mm²/s
Benzyl alcohol (100-51-6)	
Viscosity, kinematic	No data available in the literature

Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact : Eye irritation.
Symptoms/effects after ingestion : None under normal conditions.
Chronic symptoms : May damage fertility or the unborn child.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general : Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Hazardous to the aquatic environment, short–term (acute) : Harmful to aquatic life.

Hazardous to the aquatic environment, long–term (chronic) : Harmful to aquatic life with long lasting effects.

d-α-Tocopherol (59-02-9)	
LC50 - Fish [1]	> 10 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Read-across)
EC50 - Crustacea [1]	> 23.53 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Read-across)
EC50 72h - Algae [1]	> 25.8 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

N-Methyl-2-pyrrolidinone (872-50-4)	
LC50 - Fish [1]	> 500 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 1000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	600.5 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
EC50 72h - Algae [2]	672.8 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	600.5 mg/l (DIN 38412-9, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
LOEC (chronic)	25 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	12.5 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic crustacea	12.5 mg/l

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
LC50 - Fish [1]	817.89 mg/l Source: ECOSAR
EC50 96h - Algae [1]	62.072 mg/l Source: ECOSAR

Retinyl propionate (7069-42-3)	
LC50 - Fish [1]	> 10000 mg/l Test organisms (species): Leuciscus idus
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	152.94 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)

Benzyl alcohol (100-51-6)	
LC50 - Fish [1]	460 mg/l (EPA OPP 72-1, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	230 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	770 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	500 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	76.828 mg/l Test organisms (species): other:

Benzyl alcohol (100-51-6)	
ErC50 algae	770 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
NOEC chronic fish	48.897 mg/l Test organisms (species): other: Duration: '30 d'
NOEC chronic crustacea	51 mg/l

12.2. Persistence and degradability

Natural E-AD	
Persistence and degradability	Not rapidly degradable

d-α-Tocopherol (59-02-9)	
Persistence and degradability	Inherently biodegradable.

N-Methyl-2-pyrrolidinone (872-50-4)	
Persistence and degradability	Readily biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.07 g O_2/g substance
Chemical oxygen demand (COD)	1.56 g O_2/g substance
ThOD	1.9 g O_2/g substance

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
Persistence and degradability	Biodegradability in water: no data available.

Retinyl propionate (7069-42-3)	
Persistence and degradability	Not rapidly degradable

Benzyl alcohol (100-51-6)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.

12.3. Bioaccumulative potential

d-α-Tocopherol (59-02-9)	
Bioaccumulative potential	No bioaccumulation data available.

N-Methyl-2-pyrrolidinone (872-50-4)	
BCF - Fish [1]	3.16 l/kg
Partition coefficient n-octanol/water (Log Pow)	-0.46 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 25 °C)
Bioaccumulative potential	Not bioaccumulative.

Sorbitan, mono-(9Z)-9-octadecenoate, poly(oxy-1,2-ethanediyl) derivs. (9005-65-6)	
Bioaccumulative potential	No bioaccumulation data available.

Retinyl propionate (7069-42-3)	
Partition coefficient n-octanol/water (Log Pow)	9.12 Source: ECHA

Benzyl alcohol (100-51-6)	
BCF - Fish [1]	1.4 l/kg (BCFBAF v3.01, Estimated value)
Partition coefficient n-octanol/water (Log Pow)	1 – 1.1 (Experimental value, 20 °C)

Benzyl alcohol (100-51-6)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

d-α-Tocopherol (59-02-9)	
Mobility in soil	15488.17
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	7.4 (log Koc, Calculated value)
Ecology - soil	Adsorbs into the soil.

N-Methyl-2-pyrrolidinone (872-50-4)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.87 (log Koc, SRC PCKOCWIN v2.0, QSAR)
Ecology - soil	Highly mobile in soil.

Benzyl alcohol (100-51-6)	
Surface tension	39 mN/m (20 °C)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.1 – 1.3 (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

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Do not re-use empty containers.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated

DOT	TDG	IMDG	IATA
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT
Not regulated

TDG
Not regulated

IMDG
Not regulated

IATA
Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are exempt or present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
Retinyl propionate	CAS-No. 7069-42-3	1 – 5%
Contains chemical(s) subject to TSCA 12b export notification if product is shipped outside the U.S		
N-Methyl-2-pyrrolidinone	CAS-No. 872-50-4	15 – 25%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
N-Methyl-2-pyrrolidinone	CAS-No. 872-50-4	15 – 25%

15.2. International regulations

No additional information available

15.3. State regulations

WARNING: This product can expose you to N-Methylpyrrolidone, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Revision date : 1/23/2025
Issue date : 1/23/2025

Full text of hazard classes and H-statements	
H227	Combustible liquid
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

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.