SAFETY DATA SHEET

BIOBAN™ 425 Antimicrobial

Version	Revision Date:	SDS Number:	Date of last issue: 08/21/2024
2.0	03/07/2025	203000021693	Country / Language: US / EN

SECTION 1. IDENTIFICATION

Product name : BIOBAN™ 425 Antimicrobial

Product code : 000000000062633378

EPA registration number : 464-781

Manufacturer or supplier's details

Company : LANXESS Corporation
Product Safety & Regulatory Affairs
111 RIDC Park West Drive
Pittsburgh, Pennsylvania 15275-1112

Responsible Department : (800) LANXESS
(412) 809-1000
lanxesshes@lanxess.com

Emergency telephone : CHEMTREC (800) 424-9300 or
(703) 527-3887 (Outside U.S.A) and mention CCN12916.
Lanxess Emergency Phone (800) 410-3063.

Recommended use of the chemical and restrictions on use

Recommended use : Biocide for industrial application

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 2

Skin corrosion : Category 1C

Serious eye damage : Category 1

Skin sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
Toxic if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Fatal if inhaled.

Precautionary Statements :

Prevention:

Do not breathe mist or vapors.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Wear respiratory protection.

Response:

IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
If skin irritation or rash occurs: Get medical advice/ attention.
Wash contaminated clothing before reuse.

Storage:

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

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2-methyl-2H-isothiazol-3-one	2682-20-4	>= 10 - < 20
2-octyl-2H-isothiazol-3-one	26530-20-1	>= 10 - < 20

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

SECTION 4. FIRST AID MEASURES

If inhaled : Get medical attention immediately.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and get medical attention immediately.
Maintain open airway.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

In case of skin contact : Get medical attention immediately.
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Continue to rinse for 30 minutes.
Chemical burns must be treated promptly by a physician.
Wash contaminated clothing before reuse.

In case of eye contact : Get medical attention immediately.
In case of contact, flush eyes with plenty of water for at least 30 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.
Remove contact lenses, if present and easy to do. Continue rinsing.
Chemical burns must be treated promptly by a physician.

If swallowed : Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
If unconscious, place in recovery position and get medical attention immediately.
Never give anything by mouth to an unconscious person.
Maintain open airway.

Most important symptoms and effects, both acute and delayed

Symptoms	:	Acute overexposure to this product may cause dizziness, headache, drowsiness, malaise, abdominal pain. Eye: Corrosive with symptoms of reddening, tearing, swelling, burning and possible permanent damage. Skin: Reddening, burning, and possible permanent damage. Skin: Causes irritation with symptoms of reddening, itching, and swelling. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Effects	:	Toxic if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Fatal if inhaled. Causes severe burns.
Notes to physician	:	Treat symptomatically. MATERIAL IS CORROSIVE. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions maybe necessary.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Combustion generates toxic fumes of the following:
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Sulfur oxides
Further information	:	Cool containers/tanks with water spray. Minimize exposure. Do not breathe fumes. Contain run-off.
Special protective equipment for fire-fighters	:	Self-contained breathing apparatus Protective suit

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear a NIOSH approved (or equivalent) respirator (with organic vapor/acid gas cartridge and a dust/mist filter) during spill clean-ups and deactivation of this material. MATERIAL IS CORROSIVE. Protective clothing, including chemical splash goggles, nitrile or butyl rubber full length gloves, rubber apron, or clothing made of nitrile or butyl rubber, and rubber overshoes must be worn during spill clean-ups and deactivation of this material. If material comes in contact with the skin during clean-up operations, IMMEDIATELY remove all contaminated clothing and wash exposed skin areas with soap and water. See SECTION 4, First Aid Measures, for further information.
Environmental precautions	:	Do not allow material to contaminate ground water system. Prevent product from entering drains.
Methods and materials for containment and cleaning up	:	WARNING: KEEP SPILLS AND CLEAN-UP RESIDUALS OUTOF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Adsorb the spill with spill pillows or inert solids such as clay or vermiculite, and transfer contaminated materials to suitable containers for disposal. Deactivate spill area with freshly prepared solution of 5% sodium bicarbonate and 5% sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill to deac tivate any residual active ingredient. Let stand for 30 minutes. Flush the spill area with copious amounts of water to chemical sewer (if in accordance with local procedures, permits and regulations). DO NOT add deactivation solution to the waste pail to deactivate the adsorbed material. See Section 13, "Disposal Considerations", for information regarding the disposal of contained materials.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Corrosive For personal protection see section 8. Do not handle material near food, feed or drinking water.
Conditions for safe storage	:	Keep in a well-ventilated place. Do not store near food, foodstuffs, drugs or potable water supplies.
Further information on storage conditions	:	CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied. Expiration date based only on retention of >95% actives during storage at 20ºC-25ºC (68ºF-77ºF).

Recommended storage temperature	:	34 - 131 °F / 1 - 55 °C
Further information on storage stability	:	Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of "Industrial Ventilation: A Manual of Recommended Practice" published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Personal protective equipment

Respiratory protection : A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 1000 ppm organic vapor: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR full facepiece, airline respirator in the pressure demand mode. Above 1000 ppm organic vapor or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision.
Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and R95 or P95 filters.

Hand protection

Remarks : Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): butyl-rubber Nitrile rubber Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after

use. Wash hands with soap and water. NOTE: Material is a possible skin sensitizer.

Eye protection	:	Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.
Skin and body protection	:	Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
Protective measures	:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Hygiene measures	:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Physical state	:	liquid
Color	:	Pale yellow
Odor	:	No data available
pH	:	2 - 6
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	212 °F / 100 °C
Flash point	:	441 °F / 227 °C Method: Cleveland Closed Cup Solvent
Evaporation rate	:	No data available
Flammability (liquids)	:	No data available

Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.114
Density	:	1.12 g/cm3 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Molecular weight	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	This information is not available.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Polymerization will not occur.
Conditions to avoid	:	No data available
Incompatible materials	:	Avoid contact with the following:

		Oxidizing agents Amines Reducing agents mercaptan
Hazardous decomposition products	:	Nitrogen oxides (NOx) Sulfur oxides hydrogen chloride

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Toxic if swallowed.
Fatal if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat): 97.83 mg/kg Method: OECD Test Guideline 425 Remarks: estimated
Acute inhalation toxicity	:	LC50 (Rat): 0.38 - 0.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Remarks: Inhalation study was conducted on aerosols by generating the test atmosphere with an average particle size of 1.75 microns.
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402

Components:

2-methyl-2H-isothiazol-3-one:

Acute oral toxicity	:	LD50 (Rat, female): 120 mg/kg Method: OPPTS 870.1100 GLP: Yes
Acute inhalation toxicity	:	LC50 (Rat, male and female): 0.11 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: Yes
Acute dermal toxicity	:	LD50 (Rat, male and female): 242 mg/kg Method: OECD Test Guideline 402 GLP: Yes

2-octyl-2H-isothiazol-3-one:

Acute oral toxicity	:	LD50 (Rat, male and female): 125 mg/kg Method: OECD Test Guideline 401 GLP: No information available.
Acute inhalation toxicity	:	LC50 (Rat): 0.27 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: No information available.
Acute dermal toxicity	:	LD50 (Rat, Unspecified): 311 mg/kg Method: OECD Test Guideline 402 GLP: No information available.

Skin corrosion/irritation

Causes severe burns.

Product:

Species	:	Rabbit
Result	:	Corrosive after 1 to 4 hours of exposure

Components:

2-methyl-2H-isothiazol-3-one:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Corrosive after 3 minutes to 1 hour of exposure
GLP	:	Yes

2-octyl-2H-isothiazol-3-one:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Causes burns.
GLP	:	No information available.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species	:	Rabbit
Result	:	Corrosive

Components:

2-methyl-2H-isothiazol-3-one:

Remarks : Risk of serious damage to eyes.

2-octyl-2H-isothiazol-3-one:

Species : Rabbit
Assessment : Risk of serious damage to eyes.
Method : OECD Test Guideline 405
GLP : No information available.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Species : Guinea pig
Result : Causes sensitization.

Components:

2-methyl-2H-isothiazol-3-one:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : The product is a skin sensitizer, sub-category 1A.
GLP : Yes

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : The product is a skin sensitizer, sub-category 1A.
GLP : Yes

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : The product is a skin sensitizer, sub-category 1A.
GLP : Yes

2-octyl-2H-isothiazol-3-one:

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Method	:	OECD Test Guideline 429
Result	:	The product is a skin sensitizer, sub-category 1A.
GLP	:	Yes

Germ cell mutagenicity

Not classified due to lack of data.

Components:

2-methyl-2H-isothiazol-3-one:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: Yes

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: Yes

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: Yes

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative
GLP: Yes

Test Type: Micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: Yes

2-octyl-2H-isothiazol-3-one:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: No information available.
Genotoxicity in vivo	:	Test Type: Micronucleus test Method: OECD Test Guideline 474 Result: negative GLP: No information available.

Carcinogenicity

Not classified due to lack of data.

Components:

2-methyl-2H-isothiazol-3-one:

Species	:	Mouse, male
Application Route	:	Dermal
Exposure time	:	30 month(s)
Dose	:	400 parts per million
Frequency of Treatment	:	3 days/week
Method	:	No information available.
Result	:	negative
GLP	:	No
Remarks	:	Test results on an analogous substance/product.

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	24 month(s)
Dose	:	30 - 100 - 300 parts per million
Method	:	OECD Test Guideline 453
Result	:	negative
GLP	:	Yes
Remarks	:	Test results on an analogous substance/product.

IARC No ingredient 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 ingredient 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

Not classified due to lack of data.

Components:

2-methyl-2H-isothiazol-3-one:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 0 - 50 - 200 - 1000 parts per million
General Toxicity Parent: NOAEL: 200 ppm
Fertility: NOAEL: 1,000 ppm
Early Embryonic Development: NOAEL: 200 ppm
Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.
GLP: Yes

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat, female
Application Route: Oral
Dose: 0 - 5 - 20 - 60/40 milligram per kilogram
General Toxicity Maternal: NOAEL: 20 mg/kg bw/day
Teratogenicity: NOAEL: 40 mg/kg bw/day
Developmental Toxicity: NOAEL: 40 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 40 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative
GLP: Yes

Test Type: Embryo-fetal development
Species: Rabbit, female
Application Route: Oral
Dose: 0 - 3 - 10 - 30 milligram per kilogram
General Toxicity Maternal: NOAEL: 10 mg/kg bw/day
Teratogenicity: NOAEL: 30 mg/kg bw/day
Developmental Toxicity: NOAEL: 30 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 30 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative
GLP: Yes

STOT-single exposure

Not classified due to lack of data.

STOT-repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

2-methyl-2H-isothiazol-3-one:

Species	:	Rat, male and female
NOAEL	:	225 ppm
LOAEL	:	1000 ppm
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	Continuous
Dose	:	0 - 75 - 225 - 1000 parts per million
Method	:	OECD Test Guideline 408
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rat, male and female
NOAEL	:	28.59 mg/kg
LOAEL	:	71.21 mg/kg
Application Route	:	Oral
Exposure time	:	28 d
Number of exposures	:	daily
Dose	:	10,03 - 28,59 - 71,21 mg/kg bw/day
Method	:	OECD Test Guideline 407
GLP	:	Yes
Remarks	:	Subacute toxicity

Species	:	Dog, male and female
NOAEL	:	1500 ppm
Application Route	:	Oral
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	0 - 100 - 400 - 1500 parts per million
Method	:	OECD Test Guideline 409
GLP	:	Yes
Remarks	:	Subchronic toxicity

Aspiration toxicity

Not classified due to lack of data.

Components:

2-methyl-2H-isothiazol-3-one:

Based on physical properties, not likely to be an aspiration hazard.

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2-methyl-2H-isothiazol-3-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.77 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: Yes
Method: OECD Test Guideline 203
GLP: Yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.934 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: flow-through test
Analytical monitoring: Yes
Method: OECD Test Guideline 202
GLP: Yes
Remarks: Fresh water

LC50 (Mysidopsis bahia (opossum shrimp)): 1.81 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: Yes
Method: US-EPA OPPTS 850.1035
GLP: Yes
Remarks: salt water

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.158 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: Yes
Remarks: Fresh water

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.05 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test

Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: Yes
Remarks: Fresh water

ErC50 (Skeletonema costatum (marine diatom)): > 0.0725 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: Yes
Remarks: salt water

NOEC (Skeletonema costatum (marine diatom)): 0.0725 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test
Analytical monitoring: Yes
Method: OECD Test Guideline 201
GLP: Yes
Remarks: salt water

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 4.93 mg/l
End point: mortality
Exposure time: 98 d
Test Type: flow-through test
Analytical monitoring: Yes
Method: OECD Test Guideline 210
GLP: Yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.044 mg/l
Exposure time: 21 d
Test Type: flow-through test
Analytical monitoring: Yes
Method: OECD Test Guideline 211
GLP: Yes
Remarks: Fresh water

Toxicity to microorganisms : EC50 (activated sludge): 41 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 209
GLP: Yes
Remarks: Fresh water
nominal concentration

2-octyl-2H-isothiazol-3-one:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.047 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.320 mg/l Exposure time: 48 h Test Type: flow-through test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Green algae (Scenedesmus subspicatus)): 0.084 mg/l End point: Biomass Exposure time: 72 h Method: OECD Test Guideline 201 ErC50 (Skeletonema costatum (marine diatom)): 0.0015 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 NOEC (Skeletonema costatum (marine diatom)): 0.00068 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.022 mg/l Exposure time: 21 d Method: OECD Test Guideline 210 GLP: No information available.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.0016 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	EC50 (Activated sludge): 30.2 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209
Toxicity to terrestrial organisms	:	LC50 (Anas platyrhynchos (Mallard duck)): 1,215 mg/kg Exposure time: 8 d LC50 (Colinus virginianus (Bobwhite quail)): > 5,620 mg/kg Exposure time: 8 d

LC50 (Colinus virginianus (Bobwhite quail)): 346 mg/kg
Exposure time: 21 d

Persistence and degradability

Components:

2-methyl-2H-isothiazol-3-one:

Biodegradability : Biodegradation: 98 %
Exposure time: 48 d
Method: Simulation study
Remarks: Considered rapidly degradable in the environment.

Result: Not readily biodegradable.
Biodegradation: 50 %
Exposure time: 29 d
Method: OECD Test Guideline 301B
GLP: Yes

Result: Not readily biodegradable.
Biodegradation: 20 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: Yes

2-octyl-2H-isothiazol-3-one:

Biodegradability : Result: Not readily biodegradable.

Bioaccumulative potential

Components:

2-methyl-2H-isothiazol-3-one:

Partition coefficient: n-octanol/water : log Pow: -0.486 (77 °F / 25 °C)
pH: 7
Method: OECD Test Guideline 107
GLP: Yes

2-octyl-2H-isothiazol-3-one:

Bioaccumulation : Bioconcentration factor (BCF): 19.21
Method: calculated

Partition coefficient: n-octanol/water : log Pow: 2.92 (68 °F / 20 °C)
pH: 7
Method: Regulation (EC) No. 440/2008, Annex, A.8

Mobility in soil

Components:

2-octyl-2H-isothiazol-3-one:

Distribution among environmental compartments : Koc: 179.8

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : When discarded in its purchased form, this product meets the criteria of corrosivity, and should be managed as a hazardous waste (EPA Hazardous Waste Number D002). (40 CFR 261.20-24)

Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
Waste disposal should be in accordance with existing federal, state, provincial and/or local environmental controls.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 2922
Proper shipping name : Corrosive liquid, toxic, n.o.s.
(2-METHYL-2H-ISOTHIAZOL-3-ONE, 2-OCTYL-2H-ISOTHIAZOL-3-ONE)
Class : 8
Subsidiary risk : 6.1

Packing group	:	III
Labels	:	8 6.1
	:	 
Packing instruction (cargo aircraft)	:	856 : 60.00 L
Packing instruction (passenger aircraft)	:	852 : 5.00 L
Environmentally hazardous	:	yes
		

IMDG-Code

UN number	:	UN 2922
UN proper shipping name	:	CORROSIVE LIQUID, TOXIC, N.O.S. (2-METHYL-2H-ISOTHIAZOL-3-ONE, 2-OCTYL-2H-ISOTHIAZOL-3-ONE)
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	III
Labels	:	8 6.1
	:	 
EmS Code	:	F-A, S-B
Marine pollutant	:	yes
		

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

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 2922
Proper shipping name	:	Corrosive liquids, toxic, n.o.s. (2-METHYL-2H-ISOTHIAZOL-3-ONE, 2-OCTYL-2H-ISOTHIAZOL-3-ONE)
Class	:	8

Packing group	:	III	
Labels	:	8	6.1
	:		

ERG Code	:	154
Marine pollutant	:	no

Hazard and Handling Notes.
Slightly corrosive.
Slightly toxic.
Environmentally hazardous substance.
Keep separated from foodstuffs

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the 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 : Acute toxicity (any route of exposure)
Respiratory or skin sensitization
Skin corrosion or irritation
Serious eye damage or eye irritation

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.

US State Regulations

Massachusetts Right To Know

Hydrochloric Acid	7647-01-0

Pennsylvania Right To Know

METHOXY POLYETHYLENE GLYCOL 350	9004-74-4
2-methyl-2H-isothiazol-3-one	2682-20-4
water	7732-18-5

2-octyl-2H-isothiazol-3-one	26530-20-1
acetic acid	64-19-7
ethyl acetate	141-78-6
Hydrochloric Acid	7647-01-0

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

TSCA inventory

TSCA : This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

TSCA list

No substances are subject to a Significant New Use Rule.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:
2-methyl-2H-isothiazol-3-one 2682-20-4

FIFRA information

EPA registration number : 464-781

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

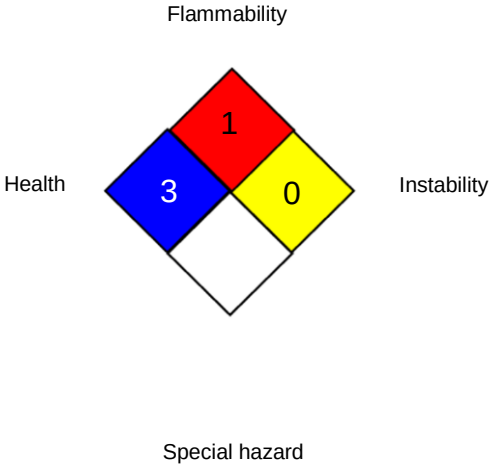
Signal Word : DANGER

Hazard Statements : Corrosive Causes irreversible eye damage and skin burns. May cause allergic skin reaction. May be fatal if swallowed. May be fatal if inhaled. May be harmful if absorbed through skin.

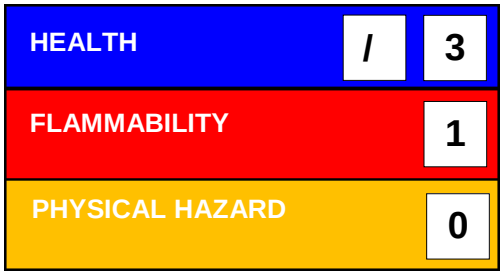
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



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

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 Substance Inventory; TECI - 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

Revision Date : 03/07/2025

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. 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 to be a guidance for processing and does not contain any 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. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.