SAFETY DATA SHEET

PREVENTOL P 91

Version	Revision Date:	SDS Number:	Date of last issue: 03/01/2023
2.0	06/26/2023	203000007707	Country / Language: US / EN

SECTION 1. IDENTIFICATION

Product name : PREVENTOL P 91

Product code : 000000000056675969

EPA registration number : 39967-79

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 4

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Serious eye damage : Category 1

Skin sensitization : Category 1

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed or if inhaled.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.

Precautionary Statements :

Prevention:

Avoid breathing 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/ eye protection/ face protection.

Response:

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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.
Take off contaminated clothing and wash before reuse.

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)

1,3-Propanediol, 2-bromo-2-nitro-	52-51-7	>= 5 - < 10
magnesium nitrate	10377-60-3	>= 1 - < 5
5-chloro-2-methyl-2H-isothiazol-3-one	26172-55-4	>= 0.1 - < 1
2-methyl-2H-isothiazol-3-one	2682-20-4	>= 0.1 - < 1

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

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

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 : Remove contaminated clothing and shoes.
Continue to rinse for at least 20 minutes.
Get medical attention if symptoms occur.
Wash contaminated clothing before reuse.

In case of eye contact : 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.
Get medical attention immediately.
Remove contact lenses, if present and easy to do. Continue rinsing.
Continue rinsing eyes during transport to hospital.
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.

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: 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	:	Harmful if swallowed or if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage.
Protection of first-aiders	:	No action shall be taken involving any personal risk or without suitable training.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide Nitrogen oxides (NOx) Halogenated compounds Metal oxides Sulfur oxides
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire.

No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Self-contained breathing apparatus operated in the pressure demand mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training.
Put on appropriate personal protection equipment.
Do not touch or walk through spilled material.
Evacuate unnecessary personnel.
Keep unnecessary and unprotected personnel from entering.
Provide adequate ventilation.
Do not breathe vapors, aerosols.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up : Stop leak if safe to do so.
Move containers from spill area.
Wash spillages into an effluent treatment plant or proceed as follows.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Dispose of wastes in an approved waste disposal facility.
Do not allow into the sewerage system, surface waters or groundwater or into the soil.
Contaminated absorbent material may pose the same hazard as the spilled product.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Remove contaminated clothing and protective equipment before entering eating areas.
Workers should wash hands and face before eating, drinking and smoking.
Put on appropriate personal protection equipment.
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.
Avoid inhalation, ingestion and contact with skin and eyes.
Use only with adequate ventilation.

Persons with a history of skin sensitization to this product should not be employed in any process in which this product is used.

Conditions for safe storage : Keep container closed when not in use.
Store in accordance with local regulations.
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink.
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not store in unlabeled containers.
Use appropriate container to avoid environmental contamination.

Recommended storage temperature : 32 - 104 °F / 0 - 40 °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 : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
A NIOSH approved air purifying respirator with organic vapor cartridges and particulate prefilter can be used to minimize exposure.

Hand protection
Material : Polychloroprene - CR
Wearing time : < 60 min

Material : Polyvinyl chloride - PVC
Wearing time : < 60 min

Remarks : The suitability for a specific workplace should be discussed

with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations

Eye protection	:	Tightly fitting safety goggles Faceshield may be necessary in operations with splash potential but cannot be used in place of chemical safety goggles.
Skin and body protection	:	Impervious clothing
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

Physical state	:	liquid
Color	:	yellow
Odor	:	slight
Odor Threshold	:	No data available
pH	:	4 - 5
Pour point	:	30 °F / -1 °C
Boiling point/boiling range	:	212 °F / 100 °C (1,013 hPa)
Flash point	:	> 212 °F / > 100 °C Method: closed cup
Evaporation rate	:	No data available
Self-ignition	:	No data available
Burning number	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	26 hPa (68 °F / 20 °C)
		130 hPa (122 °F / 50 °C)
		162 hPa (131 °F / 55 °C)
Relative density	:	No data available
Density	:	1.1 g/cm3 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	> 932 °F / > 500 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	1.27 mPa.s
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	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	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No specific data.
Incompatible materials	:	No specific data.

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Eye contact
Skin contact
Inhalation
Ingestion

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat): 1,030 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Acute oral toxicity	:	LD50 (Rat): 193 - 211 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 0.588 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

magnesium nitrate:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes Assessment: The substance or mixture has no acute oral toxicity Remarks: Dosage caused no mortality
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Remarks: Test results on an analogous product

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

Acute oral toxicity	:	LD50 (Rat): 64 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0.33 mg/l Exposure time: 4 hrs Test atmosphere: dust/mist Assessment: Corrosive to the respiratory tract.
Acute dermal toxicity	:	LD50 (Rabbit): 87.12 mg/kg

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

Skin corrosion/irritation

Causes skin irritation.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.
GLP	:	yes

magnesium nitrate:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	no

Remarks : Test results on an analogous product

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

Result : Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Remarks : Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.

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

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit
Result : Risk of serious damage to eyes.
Method : OECD Test Guideline 405

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Species : Rabbit
Result : Risk of serious damage to eyes.

magnesium nitrate:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405
GLP : yes

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

Species : Rabbit
Result : Risk of serious damage to eyes.
Method : OECD Test Guideline 405

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

Remarks : Risk of serious damage to eyes.

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Product:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Result	:	May cause sensitization by skin contact.
Remarks	:	Test results on an analogous product

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

magnesium nitrate:

Test Type	:	Local lymph node assay (LLNA)
Routes of exposure	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Did not cause sensitization on laboratory animals.
GLP	:	yes

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

Assessment	:	The product is a skin sensitizer, sub-category 1A.
Remarks	:	Causes sensitization on guinea-pigs. Has demonstrated the potential for contact allergy in mice.

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

Germ cell mutagenicity

Not classified based on available information.

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Genotoxicity in vitro : Test system: Mammalian-Human
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
GLP: yes

Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Result: negative
GLP: yes

Genotoxicity in vivo : Species: Mammalian-Animal
Application Route: Oral
Exposure time: 72 h
Dose: 160 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Species: Mammalian-Animal
Application Route: Oral
Exposure time: 4 d
Method: OECD Test Guideline 486
Result: negative
GLP: yes

magnesium nitrate:

Genotoxicity in vitro : Test Type: gene mutation 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
Remarks: Test results on an analogous product

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: Test results on an analogous product

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

Genotoxicity in vitro : Test system: Bacteria
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

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

Carcinogenicity

Not classified based on available information.

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	104 weeks
Dose	:	7 mg/kg body weight
Result	:	negative

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

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

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 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 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 based on available information.

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Effects on fertility	:	Species: Rat, male and female Application Route: Oral Duration of Single Treatment: 19 Weeks General Toxicity Parent: NOAEL: > 40 mg/kg body weight General Toxicity F1: NOAEL: > 40 mg/kg body weight Method: OECD Test Guideline 415

magnesium nitrate:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Oral Dose: 250 - 750 - 1500 mg/kg Duration of Single Treatment: 28 d General Toxicity Parent: NOAEL: >= 1,500 mg/kg body weight Method: OECD Test Guideline 422 GLP: yes Remarks: Test results on an analogous product
Effects on fetal development	:	Species: Rat, male and female Application Route: Oral Dose: 250 - 750 - 1500 mg/kg Duration of Single Treatment: 53 d General Toxicity Maternal: NOAEL: >= 1,500 mg/kg body

weight
Developmental Toxicity: NOAEL: >= 1,500 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes
Remarks: Test results on an analogous product

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

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: 72 milligram per kilogram
Method: OECD Test Guideline 415
GLP: yes
Remarks: No known significant effects or critical hazards.

Effects on fetal development : Species: Rat, female
Application Route: Oral
Dose: > 139 milligram per kilogram
Duration of Single Treatment: 20 d
Frequency of Treatment: 9 daily
Result: No teratogenic potential.

Reproductive toxicity - Assessment : No toxicity to reproduction

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 based on available information.

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Routes of exposure	:	Inhalation
Assessment	:	May cause respiratory irritation.

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

Assessment	:	Evaluation of available data suggests that this material is not an STOT-SE toxicant.

STOT-repeated exposure

Not classified based on available information.

Components:

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

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

magnesium nitrate:

Species	:	Rat, male and female
NOAEL	:	>= 1,500 mg/kg
Application Route	:	Oral
Exposure time	:	28 d
Number of exposures	:	daily
Dose	:	250 - 750 - 1500 mg/kg
Method	:	OECD Test Guideline 422
GLP	:	yes
Remarks	:	Subacute toxicity

Test results on an analogous product

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

Species	:	Rat, male and female
NOAEL	:	> 18.75 mg/kg
Application Route	:	Dermal
Exposure time	:	90 d
Dose	:	> 18,75 mg/kg
Remarks	:	Chronic toxicity

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 based on available information.

Components:

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

No aspiration toxicity classification

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): > 10 - 100 mg/l Exposure time: 96 h Remarks: Test results on an analogous product
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 4.17 mg/l Exposure time: 48 h Remarks: Test results on an analogous product
Toxicity to algae/aquatic plants	:	ErC50 (algae): 2.6 mg/l Exposure time: 72 h Remarks: Test results on an analogous product

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 11 mg/l Exposure time: 96 h Method: EPA OPP 72-1 (Fish Acute Toxicity Test) GLP: yes Remarks: Fresh water
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.08 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes Remarks: Fresh water
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (microalgae)): 0.25 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

GLP: yes
Remarks: Fresh water

NOEC (Pseudokirchneriella subcapitata (microalgae)): 0.03 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.06 mg/l
Exposure time: 21 Days
Method: OECD Test Guideline 211
GLP: yes
Remarks: Fresh water

magnesium nitrate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes
Remarks: Test results on an analogous product

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 490 mg/l
Exposure time: 48 h
Analytical monitoring: no
GLP: no
Remarks: Test results on an analogous product

Toxicity to algae/aquatic plants : EC50 (Diatom): > 1,700 mg/l
End point: Growth rate
Exposure time: 10 Days
Test Type: static test
Analytical monitoring: yes
GLP: no
Remarks: Test results on an analogous product

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes
Remarks: Test results on an analogous product

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

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.19 mg/l Exposure time: 96 h Test Type: flow-through test Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 0.16 mg/l Exposure time: 48 h Test Type: flow-through test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	NOEC (Selenastrum capricornutum (green algae)): 0.0099 mg/l End point: Growth rate EC50 (Selenastrum capricornutum (green algae)): 0.018 mg/l End point: Growth rate Exposure time: 72 hrs
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.05 mg/l Exposure time: 14 d Test Type: flow-through NOEC (Pimephales promelas (fathead minnow)): 0.02 mg/l Exposure time: 36 d Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.172000 mg/l End point: number of offspring Exposure time: 21 d Lowest Observed Effect Concentration (Daphnia magna (Water flea)): 0.572000 mg/l End point: number of offspring Exposure time: 21 d NOEC (Daphnia magna (Water flea)): 0.1 mg/l Exposure time: 21 d Test Type: flow-through test
Toxicity to microorganisms	:	EC50 (Bacteria): 5.7 mg/l Exposure time: 16 h

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

Persistence and degradability

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Biodegradability : Remarks: Based on stringent OECD test guidelines, this material cannot beconsidered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation: 99 %
Exposure time: 1 h
Method: Simulation study
Remarks: Considered rapidly degradable in the environment.

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

magnesium nitrate:

Biodegradability : Result: The methods for determining the biological degradability are not applicable to inorganic substances.

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

Biodegradability : Remarks: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

aerobic
Concentration: 6 mg/l
Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 2 d
Method: OECD Test Guideline 302B
Remarks: 10-day Window: Not applicable

Photodegradation :

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

Bioaccumulative potential

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Bioaccumulation	:	Bioconcentration factor (BCF): 3.16
Partition coefficient: n-octanol/water	:	log Pow: -0.42 Method: Calculated value

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

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 0.401 Method: measured Remarks: 5-Chloro-2-methyl-4-isothiazolin-3-one

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

Mobility in soil

Components:

1,3-Propanediol, 2-bromo-2-nitro-:

Distribution among environmental compartments	:	Koc: 5

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

Distribution among environmental compartments	:	Koc: 28 Method: estimated Remarks: Potential for mobility in soil is very high (Koc between 0 and 50). Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Other adverse effects

Components:

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

Results of PBT and vPvB assessment	:	This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be

very persistent and very bioaccumulating (vPvB).

Additional ecological information : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

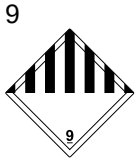
Waste from residues : The generation of waste should be avoided or minimized wherever possible.
This material and its container must be disposed of in a safe way.
Empty containers retain product residue; observe all precautions for product.
Waste disposal should be in accordance with existing federal,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

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (BRONOPOL)
Class : 9
Packing group : III
Labels : 9
:



Packing instruction (cargo aircraft) : 964 : 450.00 L
Packing instruction (passenger aircraft) : 964 : 450.00 L
Environmentally hazardous : yes

IMDG-Code

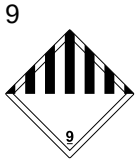
UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BRONOPOL)
Class	:	9
Packing group	:	III
Labels	:	9
	:	
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (BRONOPOL)
Class	:	9
Packing group	:	III
Labels	:	9
	:	
ERG Code	:	171
Marine pollutant	:	yes

Hazard and Handling Notes.
Environmentally hazardous substance.
Irritating to skin.
Risk of serious damage to eyes
Keep separated from foodstuffs
The U.S. DOT regulations in 49 CFR 172.102 permit this material to ship as an Environmentally Hazardous Substance, Class 9, using Special Provision 146.

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

This material does not contain any components with a CERCLA 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

1,3-Propanediol, 2-bromo-2-nitro-	52-51-7	>= 5 - < 10
magnesium nitrate	10377-60-3	>= 1 - < 5

Pennsylvania Right To Know

water	7732-18-5	> 1
1,3-Propanediol, 2-bromo-2-nitro-	52-51-7	>= 5 - < 10
magnesium nitrate	10377-60-3	>= 1 - < 5

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.

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

FIFRA information

EPA registration number : 39967-79

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:

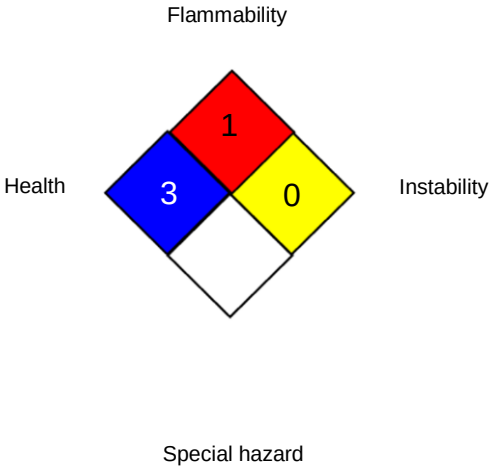
Signal Word : DANGER

Hazard Statements : Corrosive Causes irreversible eye damage. Harmful if swallowed or if inhaled. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

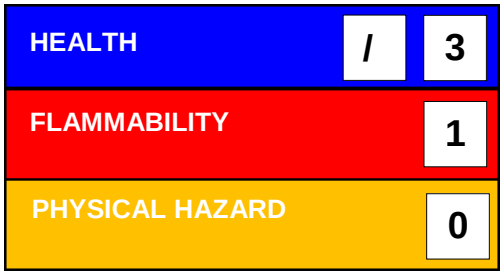
SECTION 16. OTHER INFORMATION

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 : 06/26/2023

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.