

Safety Data Sheet

Protectol® BN-NA

Revision date : 2015/02/11
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(30637572/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Protectol® BN-NA

Recommended use of the chemical and restriction on use

Recommended use*: Chemical

* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Synonyms: Not Available. Usage: biocide

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Acute Tox.	4 (dermal)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Aquatic Acute	1	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

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Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H312	Harmful in contact with skin.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
H400	Very toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe dust/gas/mist/vapours.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P310	Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361	IF ON SKIN (or hair): Wash with plenty of soap and water.
P361	Take off immediately all contaminated clothing.
P301 + P330	IF SWALLOWED: rinse mouth.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P391	Collect spillage.

Precautionary Statements (Storage):

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.
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Hazards not otherwise classified

Labeling of special preparations (GHS):

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 0 - 1 % dermal

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 0 - 1 % oral

The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 0 - 1 % Inhalation - dust

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According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

WARNING:

Risk of serious damage to eyes.
Causes skin irritation.
Causes respiratory tract irritation.
Harmful in contact with skin.
Harmful if swallowed.
Eye wash fountains and safety showers must be easily accessible.
Ensure adequate ventilation.
Wear NIOSH-certified chemical goggles.
Wear protective clothing.
Wear chemical resistant protective gloves.
Wear a NIOSH-certified (or equivalent) particulate respirator.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
52-51-7	75.0 - 100.0 %	bronopol

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
52-51-7	80.0 - 100.0 %	bronopol

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

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Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, foam

Unsuitable extinguishing media for safety reasons:
carbon dioxide

Additional information:
Avoid whirling up the material/product because of the danger of dust explosion.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours, halogenated compounds, hydrogen halides, carbon oxides, nitrogen oxides
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

Impact Sensitivity:

Impact Weight:	10 kg
Height of Fall:	0.4 m
Method:	Explosive properties
Remarks:	Substance/product is not impact sensitive at room temperature.

6. Accidental release measures

Further accidental release measures:

Forms slippery surfaces with water.

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Use personal protective clothing. Information regarding personal protective measures see, section 8.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

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Methods and material for containment and cleaning up

For small amounts: Pick up with suitable appliance and dispose of.
For large amounts: Contain with dust binding material and dispose of.
Avoid raising dust. Dispose of absorbed material in accordance with regulations.

Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling

Closed containers should only be opened in well-ventilated areas.

Protection against fire and explosion:

Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Polypropylene (PP), glass

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

8. Exposure Controls/Personal Protection

Advice on system design:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

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Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Form:	crystalline	
Odour:	product specific	
Odour threshold:		not determined
Colour:	white	
pH value:	5 - 7	(10 g/l, 20 °C)
Melting temperature:	128 - 132 °C	
Flash point:		not applicable
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)
Autoignition:		not applicable
Vapour pressure:	0.000051 hPa	(20 °C) (Directive 92/69/EEC, A.4)
Density:	1.905 g/cm ³	(20 °C) (OECD Guideline 109)
Relative density:	1.905	(20 °C) (OECD Guideline 109)
Bulk density:	approx. 1,100 kg/m ³	
Vapour density:		not determined
Partitioning coefficient n-octanol/water (log Pow):	0.18	(20 °C)
Self-ignition temperature:		(Directive 92/69/EEC, A.16) not self-igniting
Thermal decomposition:	90 °C	
	hydrogen bromide, nitrogen oxides (NO) _x	
	140 °C	
	May decompose violently.	
Viscosity, dynamic:		not applicable
Solubility in water:	280 g/l	(23 °C)
Molar mass:	200 g/mol	
Evaporation rate:		not determined

10. Stability and Reactivity

Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

No corrosive effect on metal.

Oxidizing properties:

not fire-propagating (Directive 92/69/EEC, A.17)

Formation of Remarks:

flammable gases:

Forms no flammable gases in the presence of water.

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

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Possibility of hazardous reactions

The product may contain explosive fine dust or such dust may be produced by abrasion during transport or product transfer.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid heat. Avoid dust formation. Avoid deposition of dust.

Incompatible materials

oxidizing agents
Sodium Hydroxide, bases
aluminium, metal

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: nitrogen oxides, Bromine compounds

Thermal decomposition:

90 °C

Possible thermal decomposition products:

hydrogen bromide, nitrogen oxides (NO)_x

140 °C

May decompose violently.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after short-term skin contact. Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation.

Oral

Type of value: LD50

Species: rat (male/female)

Value: > 300 - < 2,000 mg/kg (OECD Guideline 401)

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

The European Union (EU) has classified this substance as 'harmful'.

Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

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Irritation / corrosion

Assessment of irritating effects: May cause severe damage to the eyes. Irritating to respiratory system and skin.

Skin

Species: rabbit
Result: Severely irritating.
Method: OECD Guideline 404

Eye

Species: rabbit
Result: Risk of serious damage to eyes.
Method: Draize test

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Guinea pig maximization test

Species: guinea pig
Result: Non-sensitizing.
Method: similar to OECD guideline 406

Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation.

Genetic toxicity

Assessment of mutagenicity: The substance was mutagenic in a mammalian cell culture test system. No mutagenic effect was found in various tests with bacteria and mammals.

Carcinogenicity

Assessment of carcinogenicity: The substance showed no carcinogenic activity in animals after chronic administration to the skin. In long-term animal studies in which the substance was given in the drinking water in high doses, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Experiences in humans

If this substance comes into close contact with the skin of hypersensitive persons, sensitization might occur.

Other Information

The whole of the information assessable provides no indication of a carcinogenic effect.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

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12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Very toxic (acute effect) to aquatic organisms. Toxic to aquatic life with long lasting effects.

Toxicity to fish

LC50 (96 h) > 10 - < 100 mg/l, Oncorhynchus mykiss (EPA 72-1)

Aquatic invertebrates

EC50 (48 h) > 1 - < 10 mg/l, Daphnia magna (OECD Guideline 202, part 1)

Aquatic plants

EC50 (72 h) > 0.1 - < 1 mg/l (growth rate), Selastrum capricornutum (OECD Guideline 201)
acute Effect

EC50 (72 h) > 0.1 - < 1 mg/l (growth rate), Skeletonema costatum (ISO/DIS 10253)
acute Effect

No observed effect concentration (72 h) 0.1 mg/l (growth rate), Selastrum capricornutum (OECD Guideline 201)

long-term effect

Chronic toxicity to fish

LC50 (49 d) > 1 mg/l, Oncorhynchus mykiss (OECD Guideline 210, Flow through.)
Nominal concentration.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) > 0.1 - < 1 mg/l, Daphnia magna (OECD Guideline 211, Flow through.)

The statement of the toxic effect relates to the analytically determined concentration.

Soil living organisms

Toxicity to soil dwelling organisms:

LC50 (14 d) > 500 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)
The details of the toxic effect relate to the nominal concentration.

other (28 d) 25 mg/kg, other soil dwelling microorganisms (OECD 216)

The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aquatic
activated sludge/EC20 (150 min): 2 mg/l
Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Readily biodegradable (according to OECD criteria).

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Elimination information

70 - 80 % C-14 labelling (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge)

Assessment of stability in water

In contact with water the substance will hydrolyse rapidly.

Bioaccumulative potential

Assessment bioaccumulation potential

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Additional information

Sum parameter

Chemical oxygen demand (COD): approx. 600 mg/g

Other ecotoxicological advice:

Do not allow to enter soil, waterways or waste water channels.

13. Disposal considerations

Waste disposal of substance:

Do not discharge into drains/surface waters/groundwater. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in accordance with national, state and local regulations. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Hazard class:	4.1
Packing group:	III
ID number:	UN 3241
Hazard label:	4.1, EHSM
Proper shipping name:	2-BROMO-2-NITROPROPANE-1,3-DIOL

Sea transport

IMDG

Hazard class:	4.1
Packing group:	III
ID number:	UN 3241
Hazard label:	4.1, EHSM

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Marine pollutant: YES
Proper shipping name: 2-BROMO-2-NITROPROPANE-1,3-DIOL

Air transport

IATA/ICAO

Hazard class: 4.1
Packing group: III
ID number: UN 3241
Hazard label: 4.1
Proper shipping name: 2-BROMO-2-NITROPROPANE-1,3-DIOL

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

Biocide TSCA, US released / exempt

EPCRA 311/312 (Hazard categories): Acute;

NFPA Hazard codes:

Health : 3 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 1 Physical hazard: 0

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2015/02/11

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