

# **Bismuth Subnitrate Formulation**

Version SDS Number: Date of last issue: 30.09.2023 **Revision Date:** 656846-00022 8.2 28.09.2024 Date of first issue: 02.05.2016

#### **Section 1: Identification**

Product name Bismuth Subnitrate Formulation

Manufacturer or supplier's details

Company : MSD

Address 33 Whakatiki Street - Private Bag 908

Upper Hutt - New Zealand

0800 800 543 Telephone

0800 764 766 (0800 POISON) Emergency telephone number: 0800 243 622 (0800

CHEMCALL)

EHSDATASTEWARD@msd.com E-mail address

Recommended use of the chemical and restrictions on use

Recommended use Veterinary product Restrictions on use Not applicable

#### Section 2: Hazard identification

**GHS Classification** 

Skin sensitisation : Category 1

Specific target organ toxicity - :

repeated exposure

Category 1 (Central nervous system)

Hazardous to the aquatic

environment - chronic hazard

Category 2

**GHS** label elements

Hazard pictograms



Signal word

H317 May cause an allergic skin reaction. Hazard statements

H372 Causes damage to organs (Central nervous system)

through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements Prevention:



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product. P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves.

#### Response:

P302 + P352 IF ON SKIN: Wash with plenty of water. P314 Get medical advice/ attention if you feel unwell.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

P362 + P364 Take off contaminated clothing and wash it before

reuse.

P391 Collect spillage.

## Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

#### Other hazards which do not result in classification

None known.

## Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)	
Bismuth hydroxide nitrate oxide	1304-85-4	>= 50 -< 70	
Petrolatum	8009-03-8	>= 20 -< 30	
Zinc oxide	1314-13-2	>= 2.5 -< 10	
Benzyl alcohol	100-51-6	>= 1 -< 10	
2,6-Di-tert-butyl-p-cresol	128-37-0	>= 0.1 -< 0.25	

# Section 4: First-aid measures

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty

of water.

Remove contaminated clothing and shoes.

Get medical attention.

Wash clothing before reuse.

Thoroughly clean shoes before reuse. Flush eyes with water as a precaution.

In case of eye contact



# **Bismuth Subnitrate Formulation**

SDS Number: Date of last issue: 30.09.2023 Version Revision Date: 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

Get medical attention if irritation develops and persists.

If swallowed If swallowed, DO NOT induce vomiting.

> Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms

and effects, both acute and

delayed

May cause an allergic skin reaction.

Causes damage to organs through prolonged or repeated

exposure.

Protection of first-aiders First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Treat symptomatically and supportively. Notes to physician

Section 5: Fire-fighting measures

Suitable extinguishing media : Water spray

> Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

None known.

Specific hazards during fire-

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Nitrogen oxides (NOx)

Metal oxides Carbon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO.

Evacuate area.

Special protective equipment:

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

Hazchem Code 2Z

Section 6: Accidental release measures

Personal precautions, protec- : tive equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

**Environmental precautions** Avoid release to the environment.

Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### Section 7: Handling and storage

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation. Advice on safe handling : Do not get on skin or clothing.

Do not breathe dust, fume, gas, mist, vapours or spray.

Do not swallow.

Avoid contact with eyes.

Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye

flushing systems and safety showers close to the working

place.

When using do not eat, drink or smoke.

Contaminated work clothing should not be allowed out of the

workplace.

Wash contaminated clothing before re-use.

Conditions for safe storage : Keep in properly labelled containers.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

## Section 8: Exposure controls/personal protection

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Petrolatum	8009-03-8	WES-TWA	5 mg/m3	NZ OEL



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 656846-00022 8.2 28.09.2024 Date of first issue: 02.05.2016

		(Mist)			
		WES-STEL (Mist)	10 mg/m3	NZ OEL	
		TWA (Inhal- able particu- late matter)	5 mg/m3	ACGIH	
Zinc oxide	1314-13-2	WES-TWA	2 mg/m3	NZ OEL	
		WES-TWA (Respirable dust)	0.1 mg/m3	NZ OEL	
		WES-STEL	5 mg/m3	NZ OEL	
		WES-STEL (Respirable dust)	0.5 mg/m3	NZ OEL	
		TWA (Respirable particulate matter)	2 mg/m3	ACGIH	
		STEL (Respirable particulate matter)	10 mg/m3	ACGIH	
2,6-Di-tert-butyl-p-cresol	128-37-0	WES-TWA	10 mg/m3	NZ OEL	
	Further information: Skin sensitiser				
		TWA (Inhal- able fraction and vapor)	2 mg/m3	ACGIH	

**Engineering measures** Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Combined particulates and organic vapour type Filter type

Hand protection

Material Chemical-resistant gloves

Remarks Choose gloves to protect hands against chemicals depending

> on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the

end of workday.

Eye protection Wear the following personal protective equipment:

Safety glasses

Skin and body protection Select appropriate protective clothing based on chemical



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

resistance data and an assessment of the local exposure

potential.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Section 9: Physical and chemical properties

Appearance : paste

Colour : white

Odour : Petroleum

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : Not classified as a flammability hazard

Flammability (liquids) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

: Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available



# **Bismuth Subnitrate Formulation**

Version SDS Number: Date of last issue: 30.09.2023 Revision Date: 656846-00022 8.2 28.09.2024 Date of first issue: 02.05.2016

Viscosity

Viscosity, kinematic No data available

Explosive properties Not explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

Particle characteristics

Particle size No data available

## Section 10: Stability and reactivity

Not classified as a reactivity hazard. Reactivity Chemical stability Stable under normal conditions. Can react with strong oxidizing agents.

Possibility of hazardous reac-

tions

Conditions to avoid None known. Incompatible materials Oxidizing agents

Hazardous decomposition

products

No hazardous decomposition products are known.

## Section 11: Toxicological information

Skin contact Exposure routes

> Ingestion Eye contact

#### **Acute toxicity**

Not classified based on available information.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute toxicity estimate: > 2,000 mg/kg Acute dermal toxicity

Method: Calculation method

#### **Components:**

# Bismuth hydroxide nitrate oxide:

Acute oral toxicity LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 423

Remarks: Based on data from similar materials

LC50 (Rat): > 5.07 mg/lAcute inhalation toxicity

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 436

Remarks: Based on data from similar materials



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Petrolatum:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: Based on data from similar materials

Zinc oxide:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat): 1,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.4 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg

Method: Expert judgement

Remarks: Based on national or regional regulation.

2,6-Di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat): > 6,000 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

#### Skin corrosion/irritation

Not classified based on available information.

#### Components:

## Bismuth hydroxide nitrate oxide:

Species : reconstructed human epidermis (RhE)

Method : OECD Test Guideline 439

Result : No skin irritation

Petrolatum:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Zinc oxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Benzyl alcohol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

2,6-Di-tert-butyl-p-cresol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

**Components:** 

Bismuth hydroxide nitrate oxide:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Petrolatum:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

Zinc oxide:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Benzyl alcohol:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Method : OECD Test Guideline 405

2,6-Di-tert-butyl-p-cresol:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

**Components:** 

Bismuth hydroxide nitrate oxide:

Test Type : Local lymph node assay (LLNA)

Exposure routes : Skin contact Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Petrolatum:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative

Remarks : Based on data from similar materials

Zinc oxide:

Test Type : Maximisation Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Benzyl alcohol:

Test Type : Human repeat insult patch test (HRIPT)

Exposure routes : Skin contact Species : Humans Result : positive

Assessment : Probability or evidence of low to moderate skin sensitisation

rate in humans

2,6-Di-tert-butyl-p-cresol:

Test Type : Human repeat insult patch test (HRIPT)

Exposure routes : Skin contact Species : Humans Result : negative

**Chronic toxicity** 

Germ cell mutagenicity

Not classified based on available information.

**Components:** 

Bismuth hydroxide nitrate oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: negative

Petrolatum:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection Method: OECD Test Guideline 474

Result: negative

Remarks: Based on data from similar materials

Zinc oxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: equivocal

Test Type: Chromosome aberration test in vitro

Result: equivocal

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Rat

Application Route: inhalation (dust/mist/fume)

Method: OECD Test Guideline 474

Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: inhalation (dust/mist/fume)

Result: positive

Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity -

Assessment

Weight of evidence does not support classification as a germ

cell mutagen.

Benzyl alcohol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

2,6-Di-tert-butyl-p-cresol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Test Type: Chromosome aberration test in vitro

Result: negative



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

**Application Route: Ingestion** 

Result: negative

#### Carcinogenicity

Not classified based on available information.

## **Components:**

#### Petrolatum:

Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

#### Zinc oxide:

Species : Mouse
Application Route : Ingestion
Exposure time : 1 Years
Result : negative

Remarks : Based on data from similar materials

## Benzyl alcohol:

Species : Mouse
Application Route : Ingestion
Exposure time : 103 weeks

Method : OECD Test Guideline 451

Result : negative

#### 2,6-Di-tert-butyl-p-cresol:

Species : Rat
Application Route : Ingestion
Exposure time : 22 Months
Result : negative

## Reproductive toxicity

Not classified based on available information.

#### **Components:**

#### Bismuth hydroxide nitrate oxide:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion

Result: negative



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

Petrolatum:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Skin contact

Result: negative

Remarks: Based on data from similar materials

Zinc oxide:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (dust/mist/fume)

Method: OECD Test Guideline 414

Result: negative

Remarks: Based on data from similar materials

Benzyl alcohol:

Effects on fertility : Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

: Test Type: Embryo-foetal development

Species: Mouse

Application Route: Ingestion

Result: negative

2,6-Di-tert-butyl-p-cresol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

Species: Rat

**Application Route: Ingestion** 

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

## STOT - single exposure

Not classified based on available information.

## STOT - repeated exposure

Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

#### **Components:**

## Bismuth hydroxide nitrate oxide:

Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

Zinc oxide:

Assessment : No significant health effects observed in animals at concentra-

tions of 0.2 mg/l/6h/d or less.

2,6-Di-tert-butyl-p-cresol:

Assessment : No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw or less.

#### Repeated dose toxicity

#### Components:

# Petrolatum:

Species : Rat

NOAEL : 5,000 mg/kg
Application Route : Ingestion
Exposure time : 2 yr

Zinc oxide:

Species : Rat, male NOAEL : 0.0015 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 3 Months

Method : OECD Test Guideline 413

Benzyl alcohol:

Species : Rat



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

NOAEL : 1.072 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 28 Days

Method : OECD Test Guideline 412

2,6-Di-tert-butyl-p-cresol:

Species : Rat
NOAEL : 25 mg/kg
Application Route : Ingestion
Exposure time : 22 Months

**Aspiration toxicity** 

Not classified based on available information.

Experience with human exposure

**Product:** 

Ingestion : Symptoms: The absorption of this product into the body may

lead to the formation of methaemoglobine that, in sufficient concentration, causes cyanosis., May cause, Neurological disorders, Blood disorders, blood effects, central nervous sys-

tem effects, Methaemoglobinemia

**Components:** 

Bismuth hydroxide nitrate oxide:

Ingestion : Target Organs: Blood

Symptoms: Methaemoglobinemia Target Organs: Central nervous system Symptoms: Neurological disorders

Section 12: Ecological information

**Ecotoxicity** 

**Components:** 

Bismuth hydroxide nitrate oxide:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 137 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): > 137 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): > 137

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): >

137 ma/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Petrolatum:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

NOEL (Pseudokirchneriella subcapitata (green algae)): >=

100 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 10 mg/l

Exposure time: 21 d

Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Zinc oxide:

Toxicity to fish : LC50 :> 0.1 - 1 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.136

mg/l

Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): > 0.01

- 0.1 mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

M-Factor (Acute aquatic tox-

city)

Toxicity to fish (Chronic tox-

icity)

NOEC (Jordanella floridae (flagfish)): > 0.01 - 0.1 mg/l

Exposure time: 14 Weeks

Remarks: Based on data from similar materials



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Ceriodaphnia dubia (water flea)): > 0.01 - 0.1 mg/l

Exposure time: 7 d

Remarks: Based on data from similar materials

M-Factor (Chronic aquatic

toxicity)

: 1

Benzyl alcohol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 460 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 230 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 770

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 310

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 51 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

2,6-Di-tert-butyl-p-cresol:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0.57 mg/l

Exposure time: 96 h

Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.48 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

Toxicity to fish (Chronic tox-

NOEC (Oryzias latipes (Japanese medaka)): 0.053 mg/l



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

icity) Exposure time: 30 d

Method: OECD Test Guideline 210

NOEC (Daphnia magna (Water flea)): 0.316 mg/l

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

M-Factor (Chronic aquatic

toxicity)

Toxicity to microorganisms

: 1

EC50: > 10,000 mg/l Exposure time: 3 h

Exposure time: 21 d

Method: OECD Test Guideline 209

#### Persistence and degradability

## **Components:**

Petrolatum:

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 31 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Remarks: Based on data from similar materials

Benzyl alcohol:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 92 - 96 % Exposure time: 14 d

2,6-Di-tert-butyl-p-cresol:

Biodegradability : Result: Not readily biodegradable.

Biodegradation: 4.5 % Exposure time: 28 d

Method: OECD Test Guideline 301C

## **Bioaccumulative potential**

#### **Components:**

Zinc oxide:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)

Bioconcentration factor (BCF): 78 - 2,060

Benzyl alcohol:

Partition coefficient: n-

2,6-Di-tert-butyl-p-cresol:

log Pow: 1.05

octanol/water

Bioaccumulation : Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 330 - 1,800



# **Bismuth Subnitrate Formulation**

Version SDS Number: Date of last issue: 30.09.2023 Revision Date: 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

Partition coefficient: n-

octanol/water

log Pow: 5.1

# Mobility in soil

No data available

## Other adverse effects

No data available

## Section 13: Disposal considerations

**Disposal methods** 

Waste from residues Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

#### **Section 14: Transport information**

## **International Regulations**

**UNRTDG** 

**UN** number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Zinc oxide, 2,6-Di-tert-butyl-p-cresol)

Class 9 Packing group Ш Labels 9 Environmentally hazardous yes

**IATA-DGR** 

UN/ID No. UN 3077

Proper shipping name Environmentally hazardous substance, solid, n.o.s.

(Zinc oxide, 2,6-Di-tert-butyl-p-cresol)

Class Packing group Ш

Miscellaneous Labels

Packing instruction (cargo

aircraft)

Packing instruction (passen-

ger aircraft)

956

Environmentally hazardous yes

**IMDG-Code** 

**UN** number UN 3077

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

956

(Zinc oxide, 2,6-Di-tert-butyl-p-cresol)

Class 9 Packing group Ш Labels 9



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

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.

## **National Regulations**

**NZS 5433** 

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Zinc oxide, 2,6-Di-tert-butyl-p-cresol)

Class : 9
Packing group : III
Labels : 9
Hazchem Code : 2Z
Marine pollutant : no

#### 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**

# Safety, health and environmental regulations/legislation specific for the substance or mixture

## **HSNO Approval Number**

HSR100759 Veterinary Medicines Non dispersive Open System Application Group Standard

Tolerable Exposure Limits (TEL)

Not applicable

Environmental Exposure Limits (EEL)

Not applicable

#### **HSW Controls**

Certified handler certificate not required.

Tracking hazardous substance not required.

Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

#### The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

## **Section 16: Other information**



# **Bismuth Subnitrate Formulation**

Version Revision Date: SDS Number: Date of last issue: 30.09.2023 8.2 28.09.2024 656846-00022 Date of first issue: 02.05.2016

Revision Date : 28.09.2024

**Further information** 

Sources of key data used to compile the Safety Data

compile the Safety Data Sheet

ry Data eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

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Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

NZ OEL : New Zealand. Workplace Exposure Standards for Atmospher-

Internal technical data, data from raw material SDSs, OECD

ic Contaminants

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

NZ OEL / WES-TWA : Workplace Exposure Standard - Time Weighted average NZ OEL / WES-STEL : Workplace Exposure Standard - Short-Term Exposure Limit

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be



# **Bismuth Subnitrate Formulation**

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 30.09.2023

 8.2
 28.09.2024
 656846-00022
 Date of first issue: 02.05.2016

considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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