

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Sodium Selenite / Vitamin E Injection Formulation

Other means of identification : E-SE Injection (A000603)

Supplier's company name, address and phone number

Company name of supplier : MSD

Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.
Menuuma factory

Telephone : 048-588-8411

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin sensitisation : Category 1

Specific target organ toxicity - repeated exposure : Category 2 (Systemic toxicity)


Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

| | | |
|--------------------------|---|---|
| Hazard pictograms | : |  |
| Signal word | : | Warning |
| Hazard statements | : | H302 + H332 Harmful if swallowed or if inhaled. H317 May cause an allergic skin reaction. H373 May cause damage to organs (Systemic toxicity) through prolonged or repeated exposure. H412 Harmful to aquatic life with long lasting effects. |
| Precautionary statements | : | <p>Prevention:</p> P260 Do not breathe mist or vapours. P264 Wash skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves. <p>Response:</p> P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P314 Get medical advice/ attention if you feel unwell. P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P362 + P364 Take off contaminated clothing and wash it before reuse. <p>Disposal:</p> P501 Dispose of contents/ container to an approved waste disposal plant. |

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

| Chemical name | CAS-No. | Concentration (% w/w) | ENCS No. |
|---------------------------|-----------|-----------------------|----------|
| (dl)-a-Tocopheryl acetate | 7695-91-2 | 5.15 | 9-487 |

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

| | | | |
|-----------------|------------|------|--------|
| Benzyl alcohol | 100-51-6 | 2.19 | 3-1011 |
| Sodium selenite | 10102-18-8 | 1.13 | 1-507 |

4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.
Get medical attention.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.
May cause an allergic skin reaction.
May cause 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).
- Notes to physician : Treat symptomatically and supportively.

5. FIREFIGHTING 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 products : Carbon oxides

Sodium Selenite / Vitamin E Injection Formula- tion

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 2023/09/30 |
| 9.0 | 2023/11/29 | 895423-00017 | Date of first issue: 2016/09/21 |

| | | |
|--|---|---|
| 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. |

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. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Soak up with inert absorbent material. For large spills, provide dyking or other appropriate contain- ment 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 dis- posal 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. |

7. HANDLING AND STORAGE

Handling

| | | |
|-------------------------|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | If sufficient ventilation is unavailable, use with local exhaust ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing. Do not breathe mist or vapours. 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- |

Sodium Selenite / Vitamin E Injection Formula- tion

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

Assessment
Keep container tightly closed.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Avoidance of contact : Oxidizing agents
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.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

Storage

Conditions for safe storage : Keep in properly labelled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.

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

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Reference concentration / Permissible concentration | Basis |
|---|------------|----------------------------------|--|----------------|
| (dl)-a-Tocopheryl acetate | 7695-91-2 | TWA | 5000 ug/m3 (OEB 1) | Internal |
| Benzyl alcohol | 100-51-6 | OEL-C | 25 mg/m3 | JP OEL JSOH |
| Further information: Skin sensitizing agent; Group 2 substances which probably induce allergic reactions in humans. | | | | |
| Sodium selenite | 10102-18-8 | OEL-M | 0.1 mg/m3 (selenium) | JP OEL JSOH |
| | | TWA | 20 µg/m3 (OEB 3) | Internal |
| | | Wipe limit | 200 µg/100 cm ² | Internal |
| | | TWA | 0.2 mg/m3 (selenium) | ACGIH |

Sodium Selenite / Vitamin E Injection Formulation

| | | | |
|----------------|------------------------------|-----------------------------|---|
| Version 9.0 | Revision Date: 2023/11/29 | SDS Number: 895423-00017 | Date of last issue: 2023/09/30 Date of first issue: 2016/09/21 |
|----------------|------------------------------|-----------------------------|---|

Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
Minimize open handling.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

Eye protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Use appropriate degowning techniques to remove potentially contaminated clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--|---------------------|
| Physical state | : Aqueous solution |
| Colour | : amber |
| Odour | : No data available |
| Odour Threshold | : No data available |
| Melting point/freezing point | : No data available |
| Boiling point, initial boiling point and boiling range | : No data available |

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Lower explosion limit and upper explosion limit / flammability limit
Upper explosion limit / Up- : No data available
per flammability limit

Lower explosion limit / : No data available
Lower flammability limit

Flash point : No data available

Decomposition temperature : No data available

pH : No data available

Evaporation rate : No data available

Auto-ignition temperature : No data available

Viscosity
Viscosity, kinematic : No data available

Solubility(ies)
Water solubility : No data available

Partition coefficient: n- : Not applicable
octanol/water

Vapour pressure : No data available

Density and / or relative density
Relative density : No data available

Density : No data available

Relative vapour density : No data available

Explosive properties : Not explosive

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

Particle characteristics
Particle size : Not applicable

10. STABILITY AND REACTIVITY

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

Reactivity : Not classified as a reactivity hazard.
 Chemical stability : Stable under normal conditions.
 Possibility of hazardous reactions : Can react with strong oxidizing agents.
 Conditions to avoid : None known.
 Incompatible materials : Oxidizing agents
 Hazardous decomposition products : No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation
 Skin contact
 Ingestion
 Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 422.35 mg/kg
 Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 4.33 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: Calculation method

Components:

(dl)-a-Tocopheryl acetate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
 Acute dermal toxicity : LD50 (Rat): > 3,000 mg/kg
 Assessment: The substance or mixture has no acute dermal toxicity

Benzyl alcohol:

Acute oral toxicity : LD50 (Rat): 1,620 mg/kg
 Acute inhalation toxicity : LC50 (Rat): > 4.178 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403

Sodium selenite:

Acute oral toxicity : LD50 (Rat): 4.8 mg/kg

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

Acute inhalation toxicity : LC50 (Rat): > 0.052 - 0.51 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Skin corrosion/irritation

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Benzyl alcohol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Sodium selenite:

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 431

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 439

Result : Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

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

Sodium selenite:

Result : Irritation to eyes, reversing within 21 days

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

| | |
|-----------------|----------------|
| Test Type | : Draize Test |
| Exposure routes | : Skin contact |
| Species | : Humans |
| Result | : negative |

Benzyl alcohol:

| | |
|-----------------|---------------------------|
| Test Type | : Maximisation Test |
| Exposure routes | : Skin contact |
| Species | : Guinea pig |
| Method | : OECD Test Guideline 406 |
| Result | : negative |

Sodium selenite:

| | |
|------------|---|
| Assessment | : Probability or evidence of skin sensitisation in humans |
| Remarks | : Based on national or regional regulation. |

Germ cell mutagenicity

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

| | |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: Chromosome aberration test in vitro |
| | Method: OECD Test Guideline 473 |
| | Result: negative |
| Genotoxicity in vivo | : Test Type: Bacterial reverse mutation assay (AMES) |
| | Method: OECD Test Guideline 471 |
| | Result: negative |
| Genotoxicity in vivo | : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) |
| | Species: Mouse |
| | Application Route: Ingestion |
| | Result: negative |

Benzyl alcohol:

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

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
 Species: Mouse
 Application Route: Intraperitoneal injection
 Result: negative

Sodium selenite:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
 Method: OECD Test Guideline 471
 Result: negative

Carcinogenicity

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

Species : Rat
 Application Route : Ingestion
 Exposure time : 104 weeks
 Result : negative

Benzyl alcohol:

Species : Mouse
 Application Route : Ingestion
 Exposure time : 103 weeks
 Method : OECD Test Guideline 451
 Result : negative

Reproductive toxicity

Not classified based on available information.

Components:

(dl)-a-Tocopheryl acetate:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
 Species: Rat
 Application Route: Ingestion
 Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rabbit
 Application Route: Ingestion
 Result: negative

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

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 development | : | Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative |

Sodium selenite:

| | | |
|-------------------------------|---|--|
| 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 development | : | Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative |

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

May cause damage to organs (Systemic toxicity) through prolonged or repeated exposure.

Components:

Sodium selenite:

| | | |
|-----------------|---|--|
| Exposure routes | : | Ingestion |
| Assessment | : | Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less. |

Repeated dose toxicity

Components:

(dl)-a-Tocopheryl acetate:

| | | |
|-------------------|---|-----------|
| Species | : | Rat |
| NOAEL | : | 500 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 Days |

Benzyl alcohol:

| | | |
|---------|---|-----|
| Species | : | Rat |
|---------|---|-----|

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

NOAEL : 1.072 mg/l
 Application Route : inhalation (dust/mist/fume)
 Exposure time : 28 Days
 Method : OECD Test Guideline 412

Sodium selenite:

Species : Rat
 NOAEL : 0.88 mg/kg
 Application Route : Ingestion
 Exposure time : 13 Weeks

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

Sodium selenite:

Inhalation : Target Organs: Respiratory Tract
 Symptoms: Irritation, Oedema

 Target Organs: Cardio-vascular system
 Symptoms: Lowered blood pressure

 Target Organs: Digestive organs
 Symptoms: Nausea, Vomiting, Irritability

 Ingestion : Target Organs: Nervous system
 Symptoms: Neurological disorders

 Target Organs: Hair
 Symptoms: hair loss

 Target Organs: Skin
 Symptoms: Rash, Skin disorders

 Target Organs: Endocrine system

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

(dl)-a-Tocopheryl acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
 Exposure time: 96 h
 Method: OECD Test Guideline 203

Sodium Selenite / Vitamin E Injection Formula- tion

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

| | | |
|---|---|--|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): >= 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Oncorhynchus mykiss (rainbow trout)): 100 mg/l Exposure time: 28 d |
| Toxicity to microorganisms | : | EC50: > 927 mg/l Exposure time: 30 min Method: ISO 8192 |

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 (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 51 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 |

Sodium selenite:

| | | |
|------------------|---|--|
| Toxicity to fish | : | LC50 (Pimephales promelas (fathead minnow)): > 1 - 10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials |
|------------------|---|--|

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

| | | |
|--|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1.2 mg/l Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | ErC50 (Chlamydomonas reinhardtii (green algae)): > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials |
| | | NOEC (Chlamydomonas reinhardtii (green algae)): > 0.1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials |
| M-Factor (Acute aquatic toxicity) | : | 1 |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Lepomis macrochirus (Bluegill sunfish)): 0.022 mg/l Exposure time: 258 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0.096 mg/l Exposure time: 28 d |
| M-Factor (Chronic aquatic toxicity) | : | 1 |
| Toxicity to microorganisms | : | EC50 (activated sludge): 180 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 |

Persistence and degradability

Components:

(dl)-a-Tocopheryl acetate:

| | | |
|------------------|---|--|
| Biodegradability | : | Result: Not readily biodegradable. Biodegradation: 21.7 - 31 % Exposure time: 28 d Method: OECD Test Guideline 301C |
|------------------|---|--|

Benzyl alcohol:

| | | |
|------------------|---|--|
| Biodegradability | : | Result: Readily biodegradable. Biodegradation: 92 - 96 % Exposure time: 14 d |
|------------------|---|--|

Bioaccumulative potential

Components:

Benzyl alcohol:

| | | |
|--|---|---------------|
| Partition coefficient: n-octanol/water | : | log Pow: 1.05 |
|--|---|---------------|

Sodium Selenite / Vitamin E Injection Formulation

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 2023/09/30 |
| 9.0 | 2023/11/29 | 895423-00017 | Date of first issue: 2016/09/21 |

Mobility in soil

No data available

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

| | | |
|------------------------|---|---|
| Waste from residues | : | Dispose of in accordance with local regulations. Do not dispose of waste into sewer. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product. |

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

| | | |
|----------------------|---|----------------|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |

IATA-DGR

| | | |
|--|---|----------------|
| UN/ID No. | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| Packing instruction (cargo aircraft) | : | Not applicable |
| Packing instruction (passenger aircraft) | : | Not applicable |

IMDG-Code

| | | |
|----------------------|---|----------------|
| UN number | : | Not applicable |
| Proper shipping name | : | Not applicable |
| Class | : | Not applicable |
| Subsidiary risk | : | Not applicable |
| Packing group | : | Not applicable |
| Labels | : | Not applicable |
| EmS Code | : | Not applicable |
| Marine pollutant | : | Not applicable |

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
 Date of first issue: 2016/09/21

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

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

Special precautions for user

Not applicable

ERG Code : 171

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Not applicable to dangerous materials / designated flammables.

Chemical Substance Control Law

Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

| Chemical name | Concentration (%) | Remarks |
|----------------------------|-------------------|---------|
| Benzyl alcohol | >0 - <10 | - |
| Selenium and its compounds | 0.35 - 1.13 | - |

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

| Chemical name | Remarks |
|----------------------------|---------|
| benzyl alcohol | - |
| Selenium and its compounds | - |

Sodium Selenite / Vitamin E Injection Formulation

Version 9.0 Revision Date: 2023/11/29 SDS Number: 895423-00017 Date of last issue: 2023/09/30
Date of first issue: 2016/09/21

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

|| Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

Poisonous and Deleterious Substances Control Law

Poisonous substance

| Chemical name | Cabinet Order Number |
|--|----------------------|
| Sodium selenite and preparations containing it | 18 |

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Not applicable

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Not regulated as a dangerous good

Aviation Law

Not regulated as a dangerous good

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Y)

Pack transportation : Not classified as marine pollutant

Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

Sodium Selenite / Vitamin E Injection Formulation

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 2023/09/30 |
| 9.0 | 2023/11/29 | 895423-00017 | Date of first issue: 2016/09/21 |

Waste Disposal and Public Cleansing Law

Industrial waste

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

| | | |
|-------|---|----------------|
| AICS | : | not determined |
| DSL | : | not determined |
| IECSC | : | not determined |

16. OTHER INFORMATION

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
JP OEL JSOH : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average
JP OEL JSOH / OEL-M : Occupational Exposure Limit-Mean
JP OEL JSOH / OEL-C : Occupational Exposure Limit-Ceiling

AIC - 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

Sodium Selenite / Vitamin E Injection Formulation

| | | | |
|---------|----------------|--------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 2023/09/30 |
| 9.0 | 2023/11/29 | 895423-00017 | Date of first issue: 2016/09/21 |

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; TECL - 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 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.

JP / EN