



Bovi-MV®

SAFETY DATA SHEET
Bovi-MV®**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

SDS Name: Bovi-MV®
Synonyms:
Product Use: Oral Veterinary vitamin and mineral supplement.
Description: Not for human use.
Manufactured/Distributed by: AVL/Solvat Animal Health
7226- 107th Avenue South East
Calgary, Alberta Canada
T2C5N6
For information, call: (403) 456-2245, 1-877-456-2755
Website: All Safety Data Sheets are available via our AVL or Solvet website at:
<https://avetlabs.com/>
<https://solvet.ca/>
Email: orders@avetlabs.com
Emergency number: 1-866-531-8896 (Rocky Mountain Poison and Drug Center)
1-800-366-5288 (Product Support/Technical Services)
24 Hours: Medical: 1-800-498-5743
Spill/CHEMTREC: 1-800-424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS #	Conc (%w/w)	Classification
Copper (II) Sulfate	7758-98-7	>= 1 - < 5 %	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H318, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1
Zinc Sulfate	7733-02-0	>= 1 - < 5 %	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H302, H318, H400, H410; M-Factor - Aquatic Acute; M-Factor - Aquatic Chronic: 1

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Sodium Selenite	231-793-3	>= 1 - < 5 %	Acute Tox. 2; Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 2; H300, H330, H315, H319, H317,
Vitamin E, dl-tocopheryl acetate	52225-20-4	>= 1 - < 10 %	NA
Vitamin A acetate	127-47-9	>= 1 - < 5 %	NA

3. HAZARDS IDENTIFICATION
Classification of the substance or mixture

Classification - GHS	Eye irritation (Category 2A), H319 Short-term (acute) aquatic hazard (Category 3), H402 Long-term (chronic) aquatic hazard (Category 3), H412
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For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Hazard pictograms	
Signal Word	Warning
Hazard Statement	H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.
Precautionary Statement	P264 Wash skin thoroughly after handling. P273 Avoid release to the environment. P280 Wear eye protection/ face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/ attention. P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards None.

4. FIRST AID MEASURES

Description of first aid measures

Inhalation	After inhalation: fresh air.
Eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
Skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Ingestion	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

No data available

5. FIRE FIGHTING MEASURES

Extinguishing Media:**Suitable Extinguishing Media:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media:

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture:

Not combustible.

Ambient fire may liberate hazardous vapours.

Advice for firefighters:

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

Further Information:

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H⁺, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE**Precautions for safe handling**

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities**Storage conditions**

Tightly closed.

Recommended storage temperature see product label.

Storage class (TRGS 510): 12: Non Combustible Liquids

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**Control parameters**

No occupational exposure limits known.

Exposure controls

Appropriate engineering controls	Change contaminated clothing. Wash hands after working with substance.
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Skin protection	This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 480 min Material tested: KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use.

	When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: > 480 min Material tested: KCL 741 Dermatril® L
Body protection	Protective Clothing
Respiratory protection	Required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Control of environmental exposure	Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Colorless
Odor:	Odorless
Odor threshold:	Not Applicable
pH:	ca.4.8 at 20 °C (68 °F)
Melting point:	No data available
Freezing point:	No data available
Boiling point:	No data available
Boiling range:	No data available
Flash point:	Not applicable
Evaporation rate:	No data available
Flammability (solid, gas):	No data available
Upper/lower Flammability:	No data available
Or explosive limits	
Vapor pressure:	No data available
Vapor density:	No data available
Density:	ca.1.02 g/m ³ at 20 °C (68 °F)
Relative density:	No data available
Solubility:	Soluble in water.
Other safety information:	No data available.

10. STABILITY AND REACTIVITY

Reactivity:
No data available

Chemical Stability:

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions:

Violent reactions possible with:

The generally known reaction partners of water.

Conditions to Avoid:

No information available

Incompatible Materials:

No data available.

Hazardous decomposition products:

In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION**Information on toxicological effects****Mixture**

Acute toxicity	Acute toxicity estimate Oral - > 5,000 mg/kg (Calculation method) Symptoms: Possible symptoms:, mucosal irritations Acute toxicity estimate Dermal - > 5,000 mg/kg (Calculation method)
Skin corrosion/irritation	No data available
Serious eye damage/irritation	Mixture causes serious eye irritation.
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available.
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity -single exposure	No data available
Specific target organ toxicity -repeated exposure	No data available
Aspiration hazard	No data available

Additional Information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice..

Hazard Information

See Section(s) 2 and 3 for further information.

Components
Copper (II) sulfate

Acute toxicity	LD50 Oral - Rat - male and female - 481 mg/kg (OECD Test Guideline 401) Inhalation: No data available LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402) No data available
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)
Serious eye damage/irritation	Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405)
Respiratory or skin sensitisation	Freund's complete adjuvant test - Guinea pig Result: negative (OECD Test Guideline 406) The value is given in analogy to the following substances: Copper sulphate pentahydrate
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium Result: negative Method: OECD Test Guideline 486 Species: Rat - male - Liver cells Result: negative Method: Mutagenicity (micronucleus test) Species: Mouse - male and female - Red blood cells (erythrocytes) Result: negative
Carcinogenicity	No data available
Reproductive toxicity	Possible risk of congenital malformation in the fetus. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Specific target organ toxicity -single exposure	No data available
Specific target organ toxicity -repeated exposure	No data available
Aspiration hazard	No data available

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Components
Zinc sulfate

Acute toxicity	LD50 Oral - Mouse - male - 926 mg/kg (OECD Test Guideline 401) Inhalation: No data available LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402) No data available
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 4 h (OECD Test Guideline 404)
Serious eye damage/irritation	Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405)
Respiratory or skin sensitisation	Local lymph node assay (LLNA) - Mouse Result: negative Remarks: (ECHA)
Germ cell mutagenicity	Test Type: Ames test Test system: Salmonella typhimurium Result: negative Remarks: (ECHA) Species: Mouse - male and female - Red blood cells (erythrocytes) Result: negative Remarks: (ECHA)
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity -single exposure	No data available
Specific target organ toxicity -repeated exposure	No data available
Aspiration hazard	No data available

Components
Sodium selenite

Acute toxicity	LD50 Oral - Rat - 7 mg/kg Remarks: Behavioral: Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Dyspnea. Diarrhea (RTECS) LC50 Inhalation - Rat - male and female - 4 h - > 0.052 - 0.51 mg/l - dust/mist (OECD Test Guideline 403) Dermal: No data available
Skin corrosion/irritation	Skin - human keratinocytes Result: irritating (OECD Test Guideline 439)

Serious eye damage/irritation	No data available
Respiratory or skin sensitisation	Local lymph node assay (LLNA) - Mouse May cause allergic skin reaction. (OECD Test Guideline 429)
Germ cell mutagenicity	<p>Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative</p> <p>Test Type: Chromosome aberration test in vitro Test system: Chinese hamster fibroblasts Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative</p> <p>Test Type: gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative</p> <p>Test Type: Mutagenicity (mammal cell test): chromosome aberration. Species: Mouse Cell type: Bone marrow Application Route: Intraperitoneal Result: negative Remarks: (ECHA)</p>
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity -single exposure	No data available
Specific target organ toxicity -repeated exposure	No data available
Aspiration hazard	No data available

Additional information

Salivation, Tremors, Alopecia., Vomiting, Dermatitis

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

The following applies to selenium compounds in general: strong irritant effect on mucous membranes, especially in the eye and in the respiratory tract (bronchopneumonia, pulmonary oedema); selenium acts as an enzyme toxin already after the absorption of small doses; typical garlic odour of perspiration and breath; dermatitis is possible; long- term exposure results in impairments in the intermediary metabolism; toxic effect on liver, kidneys, urinary tract, gastrointestinal tract, spleen, bone marrow, heart, nerves (paralysis symptoms). Selenium is an essential trace element for man.

After absorption:

Other dangerous properties can not be excluded. We have no description of any toxic symptoms. This substance should be handled with particular care.

12. ECOLOGICAL INFORMATION**Toxicity****Mixture**

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

No data available

Components**Copper(II) sulphate**

Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) –
0.032 mg/l - 96 h

Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates static test EC50 –
Daphnia magna (Water flea) - 0.092 mg/l - 48 h
(OECD Test Guideline 202) Remarks: (anhydrous substance)

Zinc sulphate

Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) -
0.330 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

Sodium Selenite

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) -
1.7 mg/l - 96 h

Remarks: (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates

Bioaccumulation Lepomis macrochirus - 120 d - 10 µg/l(Sodium selenite)

Bioconcentration factor (BCF): 1,850 available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods**Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers or contact us there if you have further questions.

14. TRANSPORT INFORMATION

TDG

Not regulated as a dangerous good

IMDG

Not dangerous goods

IATA

Not dangerous goods

Further information

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

16. OTHER INFORMATION

Further Information:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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