

SAFETY DATA SHEET VITASEVE

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Mixture identification: Name: Code:

VITASEVE 12481

1.2 Relevant identified uses of the substance/mixture and uses advised against Recommended use: Fertilizer

1.3 Details of the supplier of the safety data sheet Produced and packed by: VALAGRO Spa Via Cagliari, 1 Zona Industriale 66041 Atessa (CH) ITALY Tel. (+39) 08728811 Fax (+39) 0872881382 www.valagro.com

Distributed and guaranteed by: Campbells Fertilisers Australasia 18 Raymond Road, Laverton North, Victoria, 3026 Phone: (03) 9931 2211 Fax: (03) 9931 2201 www.campbellsfert.com.au

Competent person responsible for the safety data sheet: regulatory@valagro.com

1.4. Emergency telephone numberPoison Information Centre - Telephone: 131126 (Australia wide – 24HRS)

SECTION 2. HAZARDS IDENTIFICATION

Classification according to the Hazardous Substances (Classification) Notice 2017 of the HSNO Act, 1996:

HSNO Classification:

6.4A 🖤 Warning, Eye Irrit. 2A, Causes serious eye irritation.

9.1.C Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects: No other hazards

2.2. Label elements Hazard pictograms:





Warning

Hazard statements:

H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.

P103 Read label before use.

P264 Wash hands thoroughly after handling

P273 Avoid release to the environment.

P373 +P313 If eye irritation persists: Get medical advice/attention.

P280 Wear protective gloves and eye/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.

P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances
 - N.A.

3.2 Mixtures

1% - 3% Manganese sulphate

Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 Reach registration number: 01-2119456624-35-xxxx 3.3/1 Eye Dam. 1 H318





0.5% - 1% Zinc sulphate

Index number: 030-006-00-9 CAS: 7733-02-0 EC: 231-793-3 Reach registration number: 01-2119474684-27-xxxx 3.3/1 Eye Dam. 1 H318

🚯 4.1/A1 Aquatic Acute 1 H400

🚯 4.1/C1 Aquatic Chronic 1 H410

(1) 3.1/4/Oral Acute Tox. 4 H302

For full text of H-statements: see SECTION 16

SECTION 4. FIRST AID MEASURES



ii cas	Immediately take off all contaminated clothing
	Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath). Remove contaminated clothing immediately and dispose off safely.
	After contact with skin, wash immediately with soap and plenty of water.
in cas	se of eyes contact:
In cos	In case of contact with eyes, finse inimediately with plenty of water and seek medical advice.
in ca	Never give anything by mouth to an unconscious person; If person is conscious rinse mouth with water and then give plenty of water to drink. Do not induce vomiting unless instructed to do so by medical personnel.OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
In cas	se of Inhalation:
	Remove casualty to fresh air and keep warm and at rest.
4.2 M	ost important symptoms and effects, both acute and delayed
	No data available for the mixture.
	Possible symptoms that may occur:
	Contact with eyes:
	Cause eye irritation
	Symptoms include pain and redness
	Inhalation: unlikely under normal working conditions;
	May cause irritation to the respiratory tract
	Symptoms: cough
	Ingestion:
	The product dissolved in water, cause an acid reaction and if swallowed can cause irritation and
	burns of the mouth, throat and digestive tract.
	Symptoms: abdominal pain,gastrointestinal disorders
	Contact with skin:
	May cause irritation to the skin
	Symptoms: redness, itching, pain.
4.3 In	dication of any immediate medical attention and special treatment needed
	Treatment:
	In case of incident seek medical advice showing the safety data sheet

5.1 Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons: None in particular.

- 5.2 Special hazards arising from the substance or mixture
 - Do not inhale explosion and combustion gases.

Burning produces heavy smoke containing sulphur oxides

5.3 Advice for fire-fighters

Wear suitable personal protective equipment and self-contained breathing apparatus. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.



> Move undamaged containers from immediate hazard area if it can be done safely. Protective clothing for firefighters (full protective suit, helmet, gloves, boots) must conform to the standard EN469

SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures
 - For non-emergency personnel:
 - No action shall be taken involving any personal risk or without suitable training
 - Wear protective clothes giving a total skin protection, gloves and safety glasses.
 - Keep away from the affected area people not involved in the emergency intervention. Ensure adequate ventilation.
 - Alert the internal emergency team.
 - For omorgonou responders:
 - For emergency responders:
 - Wear protective clothes giving a total skin protection, nitrile gloves and safety glasses. See protective measures under point 7 and 8.
- Remove people to safety. 6.2 Environmental precautions
 - Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it in landfill approved;
 - If possible, collect in clean plastic containers labeled and reuse as fertilizer.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, sol, sand.

- 6.3. Methods and material for containment and cleaning up Wash with plenty of water, contain the spill with absorbent material Collect the product for example using shovel and broom
- 6.4. Reference to other sections See also section 8 and 13

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Avoid contact with skin and eyes, inhalation of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recomened protective equipment.

7.2 Conditions for safe storage, including any incompatibilities

- Keep in original containers tightly closed in a well-ventilated place far from heat source Keep away from food, drink and feed.
 - Incompatible materials:
 - Alkaline and acid substances; oxidants and reducing substances
 - Instructions as regards storage premises:
- Adequately ventilated premises.
- 7.3 Specific end use(s)
 - None in particular

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION



> 8.1 Control parameters manganese sulphate - Index: 025-003-00-4, CAS: 7785-87-7, EC No: 232-089-9 Exposure limit Manganese (Mn) TWA 0.2 mg/m3 inorganic compounds Critical effect: central nervous system Workers: DNEL skin = 0.00414 mg / kg / day DNEL inhalation = 0.2 mg / kg / day Population: DNEL skin = 0.0021 mg / kg / dayDNEL inhalation = 0.043 mg / m³ Environment: PNEC water (fresh water) = 0.0128 mg / I PNEC water (sea water) = 0.0004 mg / I PNEC water (intermittent emissions) = 0.03 mg / I PNEC STP = 56 mg/1PNEC sediment (fresh water) = 0.0114 mg / kg dw sediment PNEC sediment (sea water) = 0.00114 mg / kg dw sediment PNEC soil = 25.1 mg / kg soil dw

- zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3

soluble zinc compounds

USA The Netherlands	1	2	ACGIH (1991)
The Netherlands	1		
			SZW (1997)
UK	1	2 ^{a)}	HSE (1998)
Sweden	1 ^{b)}		National Board of Occupational Safety and Health, Sweden (1993)
Denmark	0.5		Arbejdstilsynet, 1992

b) This TWA is determined for dust

DNELs and PNECs DNELs

- Oral
 - DNEL_{oral soluble Zn} = 50 mg Zn/day (i.e., 0.83
 - DNEL_{oral insoluble Zn} = 50
- 50 mg Zn/day (i.e., 0.83 mg Zn/kg bw/day); 50 mg Zn/day (i.e., 0.83 mg Zn/kg bw/day);

• Dermal

0

0

- DNEL_dermal soluble Zn =500 mg Zn/day (i.e., 8.3 mg Zn/kg bw/day);DNEL_dermal insoluble Zn =5000 mg Zn/day (i.e., 83 mg Zn/kg bw/day);
- Inhalation Worker



- o DNEL_{inhal soluble Zn (worker)} = 1 mg Zn/m^3 ;
- o $DNEL_{inhal insoluble Zn (worker)} = 5 mg Zn/m^3;$

Inhalation - Consumer

- o DNEL_{inhal soluble Zn (consumer)} = 1.3 mg Zn/m^3 ;
- DNEL_{inhal insoluble Zn (consumer)} = 2.5 mg Zn/m^3 ;

PNECs derived for the zinc ion

Compartment (Environment)	PNEC value for Zn ion
Freshwater	20.6* µg/L
Saltwater	6.1* µg/L
STP	52 µg/L
Freshwater sediment	117.8* mg/kg sediment d.w. A generic bioavailability factor of 0.5 is applied by default: PNEC _{bioav} : 235.6 mg/kg sediment d.w.
Saltwater sediment	56.5* mg/kg sediment d.w. A generic bioavailability factor of 0.5 is applied by default: PNEC _{bioav} : 113 mg/kg sediment d.w.
Soil	35.6* mg/kg soil d.w. A generic bioavailability/ageing factor of 3 is applied by default: PNEC _{bioav} : 106.8 mg/kg soil d.w.
Oral	No potential for bioaccumulation

added value

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles according to the standard EN 166, don't use eye lens. Protection for skin:

Use clothing that provides comprehensive protection to the skin

Protection for hands:

Use protective gloves according to EN 374 that provides comprehensive protection, e.g. nitrile Respiratory protection:

blue

Not needed for normal use.

Thermal Hazards: None

Environmental exposure controls:

Prevent the contamination of soil, surface water or groundwater

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance and colour:	Fluid paste light
Odour:	characteristic
Odour threshold:	N.A.
pH:	5.2
Melting point / freezing point:	N.A.
Initial boiling point and boiling r	ange:> 100°C
Solid/gas flammability:	not applicable



	Upper/lower flammability or exp	plosive limits:	not applicable
	Vapour density:	N.A.	
	Flash point:	not applicable	
	Evaporation rate:	N.A.	
	Vapour pressure:	N.A.	
	Density:	1.2 Kg/dm3 at 20°	С
	Solubility in water:	N.A.	
	Lipid solubility:	N.A.	
	Partition coefficient (n-octanol/	water): N.A.	
	Auto-ignition temperature:	not applicable	
	Decomposition temperature:	N.A.	
	Viscosity:	N.A.	
	Explosive properties:	not applicable	
	Oxidizing properties:	not applicable	
20	ther information		
	Miscibility:	N.A.	
	Fat Solubility:	N.A.	
	Substance Groups relevant pro	perties N.A.	

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

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- Stable under normal conditions
- 10.2 Chemical stability Stable under normal conditions
- 10.3 Possibility of hazardous reactions
- None known
- 10.4 Conditions to avoid: Avoid high temperatures
- 10.5 Incompatible materials:
 - Alkaline and acid substances; oxidants and reducing substances
- 10.6 Hazardous decomposition products:
 - None.

SECTION 11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects
 - Toxicological information of the mixture: Not avaiable

Toxicological information of the main substances in the mixture:

- a) acute toxicity:
- manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9
 LD50 Oral = 2150 mg/Kg Singh PP and Junnarkar AY (1991)
 LC50 Inhalation > 4.98 mg/l Griffiths, DR (2010)
 Skin: Manganese sulphate, absorption through skin is unlikely

- zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3				
Product	Results	Species	Doses	Ref.



Zinc sulphate monohydrate hexahydrate heptahydrate	LD50 Oral	Rata	574 to 2,949 862 to 4,429 920 to 4,725 mg/kg	Litton Bionetics, 1974 Courtois et al., 1978	
Zinc sulphate	LD50 Dermal	Rat	>2000 mg/kg	Van Huygevoort (1999a)	
 b) skin corros manganes in vivo tes zinc sulpha not irritant 	skin corrosion/irritation: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 in vivo test on rabbit OECD 404: Not irritating - Ref .Pooles (2010) zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not irritant (Van Huygevoort, 1999b;Lansdown, 1991)				
 c) serious ey manganes Test in vitr Test in viv zinc sulph Severe irri 	 serious eye damage/irritation: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 Test in vitro Reconstituted Corneal Epithelium: not irritant Ref. Warren N (2009b) Test in vivo: Irreversible eye damage (test based on one rabbit) zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 Severe irritant (Van Huygevoort, 1999f) 				
d) respiratory - manganes Skin: Not o Respirator - zinc sulph no sensitiz	respiratory or skin sensitisation: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 Skin: Not classified as a sensitizer Respiratory system: N.A. zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 no sensitizing effect known (Van Huygevoort, 1999i, Ikarashi et al, 1992)				
 e) germ cell r manganes not mutag zinc sulpha no mutage 	germ cell mutagenicity: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 not mutagenic zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 no mutagenic				
f) carcinogenic - manganes not classif - zinc sulph not classi	carcinogenicity: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 not classified as cancerogenic zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not classified as cancerogenic				
 g) reproductive manganes not classif zinc sulph. not classif 	eproductive toxicity: manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 not classified zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not classified				
h) STOT-single	h) STOT-single exposure:				

- manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 not classified



- zinc sulphate - Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not classified

i) STOT-repeated exposure:

- manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 STOT RE 2 May cause damage to the brain through prolonged or repeated exposure by inhalation.
- zinc sulphate Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not classified

j) aspiration hazard:

- manganese sulphate Index number: 025-003-00-4, CAS: 7785-87-7, EC: 232-089-9 STOT RE 2 May cause damage to the brain through prolonged or repeated exposure by inhalation.
- zinc sulphate Index: 030-006-00-9, CAS: 7733-02-0, EC No: 231-793-3 not classified

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Adopt good working practices, so that the product is not released into the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

-	manganese sulphat	e - Index: 025-003	3-00-4, CAS: 7	785-87-7, EC	No: 232-089-9
Toxic to aq	uatic organisms, may	/ cause long-term	adverse effect	ts in the aqua	tic environment.

Aquatic compartment	Results	Substance	Reference
Short-term toxicity: <i>Oncorhynchus mykiss</i> Fresh water	LC50 (96 h): 14.5 mg/L Mn	Test material Manganese sulphate monohydrate	Davies PH (1980)
Long-term toxicity: Oncorhynchus mykiss, fresh water	NOEC (4 mo): 0.6 mg/L Mn	Test material (EC name): manganese sulphate	Davies P & Brinkman S (1994)
Short-term toxicity: Daphnia magna,	LC50 (48 h): 9.8 mg/L dissolved (meas. (arithm. mean)) based on: as Mn2+	Test material (EC name): manganese chloride	Biesinger KE & Christensen GM (1972)
fresh water			
Long-term toxicity: Daphnia magna,	LC50 (3 settimane): 5700 µg/L dissolved (meas. (arithm. mean)) based on: mortality	Test material (EC name): manganese chloride	Biesinger KE & Christensen GM (1972)
Algae: Desmodesmus subspicatus (algae, Growth Inhibition Test), fresh	EC50 (72 h): 61 mg/L test mat. (nominal) based on:	Test material	Vryenhoef H (2010)



	growth rate	manganese sulphate monohydrate
 zinc sulphate - Ind Acute aquatic toxi For zinc heptahyd 	ex: 030-006-00-9, CAS: 7733-(city rate (a ZnSO4.7H20/Zn molec	02-0, EC No: 231-793-3 ular weight ratio of 4.4):
 for pH <7: for pH >7-8.5: 	1.82 mg Zn/l (based on 48 hr 0.60 mg Zn/l (based on 72 hr	Ceriodaphnia dubia test cfr. above) Selenastrum capricornutum test cfr. abo
M-factor: 1		
12.2 Persistence and de	gradability	
	tantial	
The mixture deep	at contain any biogeours define	a component
12.4 Mobility in soil	it contain any bioaccumulativ	e component
The product is sel	uble and mabile in both terray	strial and aquatia compartments
12.5 Poculto of PRT and	while and mobile in both terres	sinai and aqualic compartments
	VF VB assessment	
N.A. 12 6 Other advarge offer		
12.0 Other adverse ener	215	
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> REACh Regulation (EC) No 1906/2006 15.1.2.National regulations New Zealand Classified as hazardous according to Hazardous Substances (Classification) Notice 2017. HSNO Approval Number (Group Standard) HSR002571. Fertiliser (Subsidiary Hazard) Group Standard 2006

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16. OTHER INFORMATION

Text of phrases referred to under heading 3:

H412 Harmful to aquatic life with long lasting effects.

H318 Causes serious eye damage.

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

H410 Very toxic to aquatic life with long lasting effects.

H302 Harmful if swallowed.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2

This document was prepared by a competent person who has received appropriate training. Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

- N.A.: No data available
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
- CAS: Chemical Abstracts Service (division of the American Chemical Society).
- CLP: Classification, Labeling, Packaging.



DNEL: EINECS: GefStoffVO: GHS:	Derived No Effect Level. European Inventory of Existing Commercial Chemical Substances. Ordinance on Hazardous Substances, Germany. Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.