AXILO MIX 5

Safety Data Sheet

according to US HazCom 2012

Issue date: 12/2/2024 Revision date: 12/2/2024 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form	:	Mixtures
Trade name	:	AXILO MIX 5
Product code	:	11236

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Fertilisers
Recommended use	:	Fertilisers, Restricted to professional users
Restrictions on use	:	Uses other than those recommended

1.3. Supplier

VALAGRO Spa
Via Cagliari, 1 Zona Industriale
Atessa (CH), 66041
Italy
T (+39) 08728811 - F (+39) 0872881382
regulatory@valagro.com - www.valagro.com

Distributed and guaranteed by:
Valagro USA Inc.
2020 Ponce de Leon Blvd, Ste. 1203
Coral Gables, Fl 33134
Phone +1-786-230-1020 / +1-786-230-1019

1.4. Emergency telephone number

Emergency number	:	Valagro USA Inc Phone +1-786-230-1020 / +1-786-230-1019

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2	Causes serious eye irritation
Reproductive toxicity Category 1B	May damage fertility or the unborn child

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US)	:	Danger
Hazard statements (GHS US)	:	Causes serious eye irritation May damage fertility or the unborn child
Precautionary statements (GHS US)	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Wear eye protection, face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-)	CAS-No.: 14025-15-1	8 – 13	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319
boric acid	CAS-No.: 10043-35-3	2.5 – 3.5	Repr. 1B, H360

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Self-protection of the first aider. Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of breathing difficulties administer oxygen. In case of irregular breathing or respiratory arrest provide artificial respiration. Seek medical advice. Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove contaminated clothing immediately and dispose of safely. Wash skin thoroughly with mild soap and water. If skin irritation occurs: Get medical advice/attention. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Methaemoglobin formation.

Symptoms/effects : May damage fertility or the unborn child.

Symptoms/effects after inhalation	:	Inhalation may cause irritation, cough, shortness of breath.
Symptoms/effects after skin contact	:	Repeated or prolonged skin contact may cause irritation.
Symptoms/effects after eye contact	:	Causes serious eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	carbon dioxide (CO2), water, dry chemical powder. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	:	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	:	Do not breathe fumes. On combustion forms:

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	:	Evacuate the personnel away from the fumes.
Firefighting instructions	:	Cool down the containers exposed to heat with a water spray. Move undamaged containers from immediate hazard area if it can be done safely. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	:	Extra personal protection: complete protective clothing including self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	:	Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Personal protection equipment. Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Immediately contact emergency personnel. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	:	Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	:	Evacuate unnecessary personnel.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Stop leak if safe to do so.
Methods for cleaning up	:	Ventilate affected area. Personal protection equipment. Sweep up or vacuum up the product. Minimize generation of dust. Wash with plenty of soap and water. Consult the appropriate authorities about waste disposal. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.
Other information	:	Do not allow uncontrolled discharge of product into the environment.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". See Section 1 for emergency contact information. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid breathing mist or vapor . Keep away from sources of ignition - No smoking. Keep away from: Metals, Dust, Organic materials. Minimize generation of dust. Provide good ventilation in process area to prevent formation of vapor. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep out of direct sunlight. Keep container tightly closed in a cool, well-ventilated place. Keep container closed when not in use.

Incompatible products : reducing agents. Combustible materials. Powdered metals.

Heat-ignition : Keep away from open flames, hot surfaces and sources of ignition.

Information on mixed storage : Keep away from food, drink and animal feeding stuffs.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

boric acid (10043-35-3)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Boric acid
ACGIH OEL TWA	2 mg/m³ (inhalable particulate matter (Borate compounds, inorganic)
ACGIH OEL STEL	6 mg/m³ (inhalable particulate matter (Borate compounds, inorganic)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2024

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m³ COPPER, DUSTS AND MISTS, AS CU (en-US) 0.2 mg/m³ Copper, fume as Cu (en-US)

Disodium molybdate dihydrate (10102-40-6)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Molybdenum, soluble compounds, as Mo
ACGIH OEL TWA	0.5 mg/m³ Molybdenum, soluble compounds, as Mo, respirable fraction
Remark (ACGIH)	TLV® Basis: LRT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2024

Disodium molybdate dihydrate (10102-40-6)	
USA - OSHA - Occupational Exposure Limits	
Local name	Molybdenum (as Mo)
OSHA PEL TWA	5 mg/m³ Soluble compounds 15 mg/m³ Insoluble Compounds - Total dust
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide adequate ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Safety glasses. Wear protective gloves. Protective clothing.

Hand protection:
Wear protective gloves. Protective gloves made of rubber or PVC. Use equipment for hand protection tested and approved in accordance with OSHA requirements (29 CFR 1910.138)

Eye protection:
Safety glasses. Use equipment for eye protection tested and approved in accordance with OSHA requirements (29 CFR 1910.133)

Skin and body protection:
Chemical resistant apron. Wear protective apron/clothing (tested and approved in accordance with OSHA requirements (29 CFR 1910.132) or equivalent.

Respiratory protection:
Where excessive dust may result, wear approved mask. Dust production: dust mask with filter type P2. Wear appropriate mask. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

Personal protective equipment symbol(s):

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	microgranules.
Color	:	Gray Green
Odor	:	characteristic
Odor threshold	:	Not determined
pH	:	4.5
pH solution concentration	:	1 % Water solution (T = 20°C)
Melting point	:	Not determined
Freezing point	:	Not determined
Boiling point	:	Not applicable
Flash point	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	Not applicable

Flammability (solid, gas)	:	Not flammable.
Vapor pressure	:	Not applicable
Vapor pressure at 50°C	:	Not applicable
Relative vapor density at 20°C	:	Not applicable
Particle size	:	0.5 mm 0.3 mm 0.212 mm 0.125 mm 0.125 mm
Particle size distribution	:	>0.5 mm = 1.0% >0.3 mm = 2.0% >0.212 mm = 9.0% >0.125 mm = 65.0% >0.125 mm = 23.0%
Relative density	:	Not determined
Density	:	Not determined
Solubility	:	Water: 100 g/l
Partition coefficient n-octanol/water (Log Pow)	:	Not determined Not determined
Auto-ignition temperature	:	Not determined
Decomposition temperature	:	Not determined
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Explosion limits	:	Lower explosion limit: Not applicable Upper explosion limit: Not applicable
Explosive properties	:	Not expected to be explosive as none of the components is classified as explosive.
Oxidizing properties	:	Not oxidising.

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No polymerization. Reacts violently with. Reducing agents. Bases. No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Humidity. None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Bases. Reducing agents.

10.6. Hazardous decomposition products

Boron oxide. Carbon oxides (CO, CO2). Nitrogen oxides. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

boric acid (10043-35-3)	
LD50 oral rat	> 2600 mg/kg OECD 401
LD50 dermal rabbit	> 2000 mg/kg (Source: NLM_HSDB)
LC50 Inhalation - Rat	> 2.03 mg/l OECD Guideline 403

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
LD50 oral rat	890 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LC50 Inhalation - Rat	> 5.32 mg/l air Animal: rat, Guideline: OECD Guideline 436 (Acute Inhalation Toxicity: Acute Toxic Class Method)
ATE US (oral)	890 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 4.5
Serious eye damage/irritation : Causes serious eye irritation.
pH: 4.5
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : May damage fertility or the unborn child.

boric acid (10043-35-3)	
LOAEL (animal/male, F0/P)	58.5 mg/kg
NOAEL (animal/male, F0/P)	17.5 mg/kg

STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

boric acid (10043-35-3)	
LOAEL (oral,rat,90 days)	58.5 mg/kg bodyweight/day
NOAEL (oral,rat,90 days)	17.5 mg/kg bodyweight/day

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
LOAEL (oral,rat,90 days)	150 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified
Viscosity, kinematic : Not applicable
Potential Adverse human health effects and symptoms : Methaemoglobin formation.
Symptoms/effects : May damage fertility or the unborn child.
Symptoms/effects after inhalation : Inhalation may cause irritation, cough, shortness of breath.
Symptoms/effects after skin contact : Repeated or prolonged skin contact may cause irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

boric acid (10043-35-3)	
LC50 - Fish [1]	79.7 mg/l
EC50 - Crustacea [1]	115 – 153 mg/l Daphnia magna (Water flea)
EC50 - Other aquatic organisms [1]	175 mg/l
ErC50 algae	40 mg/l Pseudokirchneriella subcapitata
LOEC (chronic)	23 mg/l Fathead minnow, 32d
NOEC chronic fish	11.2 mg/l Fathead minnow
NOEC chronic crustacea	25.9 mg/l Hyalella azteca, 42d
NOEC chronic algae	≥ 100 mg/l Agmenellum quadruplicatum, 10d

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
LC50 - Fish [1]	555 mg/l
EC50 - Crustacea [1]	109.2 (OECD 202 method)
EC50 72h - Algae [1]	662.6 mg/l (OECD 201 method)
NOEC (acute)	654 mg/l Bacteria toxicity
NOEC (chronic)	3702 mg/l (OECD 210 method)
NOEC chronic fish	≥ 25.7 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '35 d'
NOEC chronic crustacea	29.5 mg/l (OECD 211 method)

12.2. Persistence and degradability

AXILO MIX 5	
Persistence and degradability	The methods for determining the biological degradability are not applicable to inorganic substances. Not established.

boric acid (10043-35-3)	
Persistence and degradability	Not readily biodegradable.

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	< 60 % 28d (OECD 301D)

12.3. Bioaccumulative potential

AXILO MIX 5	
Partition coefficient n-octanol/water (Log Pow)	Not determined
Partition coefficient n-octanol/water (Log Kow)	Not determined
Bioaccumulative potential	Not established.

boric acid (10043-35-3)	
BCF - Fish [1]	(0 dimensionless)

boric acid (10043-35-3)	
Partition coefficient n-octanol/water (Log Pow)	-1.09 (at 22 °C (at pH 7.5)
Bioaccumulative potential	Does not significantly accumulate in organisms.

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
Bioconcentration factor (BCF REACH)	1.1 – 1.8
Partition coefficient n-octanol/water (Log Pow)	< 3
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

AXILO MIX 5	
Ecology - soil	Expected to be highly mobile in soil.

boric acid (10043-35-3)	
Ecology - soil	Mobile.

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-) (14025-15-1)	
Mobility in soil	Not determined

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Reuse or recycle following decontamination. External recovery and recycling of waste should comply with applicable local and/or national regulations.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Ecological waste information : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not applicable	Not applicable	Not applicable	Not applicable
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable

DOT	TDG	IMDG	IATA
14.5. Environmental hazards			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT
Not applicable

TDG
Not applicable

IMDG
Not applicable

IATA
Not applicable

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Disodium molybdate dihydrate	CAS-No. 10102-40-6	0.2 – 1%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
boric acid(10043-35-3)	U.S. - Maine - Chemicals of Concern

SECTION 16: Other information

according to US HazCom 2012
Revision date : 12/2/2024

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to take mentioned precaution measures and ensure that this information is complete and sufficient for the use of this product. None.

Abbreviations and acronyms	
SDS	Safety Data Sheet
CAS	CAS - Chemical Abstracts Service
GHS	GHS - Globally Harmonised System
CSR	CSR - Chemical Safety Report
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
PVC	PVC (Polyvinyl chloride).
PNEC	Predicted No-Effect Concentration
PBT	Persistent Bioaccumulative Toxic
vPvB	Very Persistent and Very Bioaccumulative
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006

Safety Data Sheet (SDS), USA

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