

SAFETY DATA SHEET

NoVoFour

This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : NP-0240-A
Revision date: 2020-03-20
Format: EU
Version 1.01

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s) NP-0240-A

Product Name NoVoFour

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use: A micronutrient suspension concentrate for use in agriculture

Restrictions on use Use as recommended by the label.

1.3. Details of the supplier of the safety data sheet

Manufacturer
FMC Agro Limited
Rectors Lane
Pentre
Flintshire
CH5 2DH
United Kingdom
Tel: + 44 1244 537370
E-mail: fmc.agro.uk@fmc.com

For further information, please contact:

Contact point
Tel: +44(0) 1244 537370
Email: fmc.agro.uk@fmc.com

1.4. Emergency telephone number

Emergency telephone Medical emergencies:

Austria: +43 1 406 43 43
Belgium: +32 70 245 245
Bulgaria: +359 2 9154 409
Cyprus: 1401
Czech Republic: +420 224 919 293, +420 224 915 402
Denmark: +45 82 12 12 12
France: +33 (0) 1 45 42 59 59
Finland: +358 9 471 977
Greece: 30 210 77 93 777
Hungary: +36 80 20 11 99
Ireland (Republic): +352 1 809 2166
Italy: +39 02 6610 1029
Lithuania: +370 523 62052, +370 687 53378
Luxembourg: +352 8002 5500
Netherlands: +31 30 274 88 88
Norway: +47 22 591300
Poland: +48 22 619 66 54, +48 22 619 08 97
Portugal: 800 250 250 (in Portugal only), +351 21 330 3284

Romania: +40 21318 3606
 Slovakia: +421 2 54 77 4 166
 Slovenia: +386 41 650 500
 Spain: +34 91 562 04 20
 Sweden: +46 08-331231112
 Switzerland: 145
 United Kingdom: 0870 600 6266 (in the UK only)
 U.S.A. & Canada: +1 800 / 331-3148
 All other countries: +1 651 / 632-6793 (Collect)

For leak, fire, spill, or accident emergencies, call:
 1 800 / 424-9300 (CHEMTREC - U.S.A. & Canada)
 1 703 / 527 3887 (CHEMTREC - All Other Countries - Collect)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture Regulation (EC) No 1272/2008

| | |
|--|-------------------|
| Chronic aquatic toxicity | Category 1 (H410) |
| EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction. | |

2.2. Label elements

Hazard pictograms



Signal Word

Warning

Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects

EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

Precautionary Statements

P273 - Avoid release to the environment

P391 - Collect spillage

P501: Dispose of contents/container as hazardous waste in accordance with local regulations.

2.3. Other hazards

This product is not identified as a PBT/vPvB substance.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture, not a substance.

3.2 Mixtures

| Chemical name | EC-No | CAS-No | Weight percent | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH registration number |
|---------------|-----------|-----------|----------------|---|---------------------------|
| Zinc oxide | 215-222-5 | 1314-13-2 | 10-30 | Aquatic Acute 1 (H400) | 01-2119463881-32- |

| | | | | | |
|------------------|-----------|-----------|------|---|-----------------------|
| | | | | Aquatic Chronic 1 (H410) | XXXX |
| Copper(+1) oxide | Present | 1317-39-1 | 1-10 | Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | 01-2119513794-36-XXXX |
| ethane-1,2-diol | 203-473-3 | 107-21-1 | 1-10 | Acute Tox. 4 (H302) STOT RE 2: (H373) | 01-2119456816-28-XXXX |

Additional Information

Contains 1,2-Benzisothiazolin-3-one (CAS number 2634-33-5) at a level below the concentration limit for classification of the mixture as sensitising.

For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---------------------|--|
| Eye Contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. |
| Skin Contact | Wash off immediately with soap and plenty of water. Call a poison control centre or doctor for treatment advice. |
| Inhalation | Remove person from exposure ensuring one's own safety while doing so. |
| Ingestion | Rinse mouth. Do NOT induce vomiting. Consult a physician. |

4.2. Most important symptoms and effects, both acute and delayed

| | |
|--|---|
| Most important symptoms and effects, both acute and delayed | May cause an allergic reaction in individuals already sensitised to 1,2-Benzisothiazolin-3-one. |
| | Skin contact: May see mild irritation at the site of contact. |
| | Eye contact: Possible irritation and redness. |
| | Ingestion: Possible irritation of the throat. |
| | Inhalation: May experience irritation of the throat with a feeling of tightness in the chest. |
| | Delayed/Immediate effects: Immediate effects can be expected after short-term exposure. |

4.3. Indication of any immediate medical attention and special treatment needed

| | |
|---|------------------------|
| Indication of immediate medical attention and special treatment needed, if necessary | Treat symptomatically. |
|---|------------------------|

Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

| | |
|-------------------|--|
| Small Fire | Dry chemical. Carbon dioxide (CO ₂). |
| Large Fire | Water spray. Foam. |

Unsuitable extinguishing media

Avoid heavy hose streams.

5.2. Special hazards arising from the substance or mixture

Toxic fumes may be released in fire situations.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Wear protective clothing to prevent contact with skin and eyes. Contaminated fire extinguishing water should not be discharged into drains, if preventable.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal Precautions**

For personal protection see section 8. Isolate and post spill area. In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons. Stop leak if you can do it without risk. In the case of large spills (1 ton or more), alert the appropriate authorities.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not discharge into drains or rivers. Contain the spillage using bunding. Accidental release into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up**Methods for Containment**

Surface drains within close vicinity of the spill should be covered. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Pick up and transfer to properly labelled containers.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling****Handling**

Ensure adequate ventilation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage**

Protect from freezing. Store above 5°C. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs. To maintain product quality, do not store in heat or direct sunlight.

7.3. Specific end use(s)**Specific Use(s)**

See subsection 1.2. Relevant identified uses of the substance or mixture and uses advised against.

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

| Chemical name | European Union | The United Kingdom | France | Spain | Germany |
|-------------------------------|---|--|---|---|--|
| Zinc oxide 1314-13-2 | - | - | TWA 5 mg/m ³ TWA 10 mg/m ³ | TWA 2 mg/m ³ STEL 10 mg/m ³ | - |
| ethane-1,2-diol 107-21-1 | TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ S* | STEL 40 ppm STEL 104 mg/m ³ STEL 30 mg/m ³ TWA 10 mg/m ³ TWA 20 ppm TWA 52 mg/m ³ Skin | TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ P* | TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ S* | - |
| Chemical name | Italy | Portugal | The Netherlands | Finland | Denmark |
| Zinc oxide 1314-13-2 | - | TWA 2 mg/m ³ STEL 10 mg/m ³ | - | TWA 2 mg/m ³ STEL 10 mg/m ³ | TWA 4 mg/m ³ |
| Copper(+1) oxide 1317-39-1 | - | - | - | TWA 0.02 mg/m ³ | - |
| ethane-1,2-diol 107-21-1 | TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ Pelle* | TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ Ceiling 100 mg/m ³ C(A4) P* | Huid* STEL 104 mg/m ³ TWA 52 mg/m ³ TWA 10 mg/m ³ | TWA 20 ppm TWA 50 mg/m ³ STEL 40 ppm STEL 100 mg/m ³ iho* | TWA 10 ppm TWA 26 mg/m ³ TWA 10 mg/m ³ H* |
| Chemical name | Austria | Switzerland | Poland | Norway | Ireland |
| Zinc oxide 1314-13-2 | TWA 5 mg/m ³ | TWA 3 mg/m ³ STEL 3 mg/m ³ | TWA 5 mg/m ³ STEL 10 mg/m ³ | TWA 5 mg/m ³ STEL 10 mg/m ³ | TWA 2 mg/m ³ STEL 10 mg/m ³ |
| ethane-1,2-diol 107-21-1 | H* STEL 20 ppm STEL 52 mg/m ³ TWA 10 ppm TWA 26 mg/m ³ | SS-C** H* TWA 10 ppm TWA 26 mg/m ³ STEL 20 ppm STEL 52 mg/m ³ | TWA 15 mg/m ³ STEL 50 mg/m ³ | TWA 20 ppm TWA 52 mg/m ³ S* STEL 104 mg/m ³ STEL 40 ppm | TWA 10 mg/m ³ TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 30 mg/m ³ STEL 104 mg/m ³ Skin |

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures Ensure adequate ventilation.

Personal protective equipment

Eye/Face Protection Safety Glasses. Maintain eye wash fountain and quick-drench facilities in work area.

Hand Protection Protective gloves. PVC gloves. PVA gloves. Impervious butyl rubber gloves. Nitrile rubber. Rubber gloves.

Skin and Body Protection Wear suitable protective clothing.

Respiratory Protection Not required under normal use.

Environmental exposure controls Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | |
|------------------------------|--------------------------------|
| Physical State | Liquid |
| Appearance | Liquid |
| Odour | Barely perceptible |
| Colour | Red brown |
| Odour threshold | No information available |
| pH | 8.0 - 10.0 |
| Melting point/freezing point | No information available |
| Boiling point/boiling range | No information available |
| Flash point | No information available |
| Evaporation Rate | No information available |
| Flammability (solid, gas) | |
| Flammability Limit in Air | |
| Upper flammability limit: | No information available |
| Lower flammability limit | No information available |
| Vapour pressure | No information available |
| Vapour density | No information available |
| Specific gravity | 1.57 - 1.61 |
| Water solubility | Dispersible in water |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition temperature | No information available |
| Decomposition temperature | No information available |
| Viscosity, kinematic | No information available |
| Viscosity, dynamic | No information available |
| Explosive properties | No information available |
| Oxidising properties | Non-oxidizing (by EC criteria) |

9.2. Other information

| | |
|------------------|--------------------------|
| Softening point | No information available |
| Molecular weight | No information available |
| VOC content (%) | No information available |
| Density | No information available |
| Bulk density | No information available |
| K _{st} | No information available |

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Stable under recommended storage conditions

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions**Hazardous polymerisation**

Hazardous polymerization does not occur.

Hazardous reactions

None under normal processing. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

May emit toxic fumes under fire conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

LD50 Oral > 5000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

| | |
|--|---------------------------|
| Skin corrosion/irritation | No information available. |
| Serious eye damage/eye irritation | No information available. |
| Sensitisation | No information available. |
| Mutagenicity | No information available. |
| Carcinogenicity | No information available. |

| | |
|---------------------------------|---------------------------|
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | No information available. |

Symptoms

May cause an allergic reaction in individuals already sensitised to 1,2-Benzisothiazolin-3-one.

Skin contact: May see mild irritation at the site of contact.

Eye contact: Possible irritation and redness.

Ingestion: Possible irritation of the throat.

Inhalation: May experience irritation of the throat with a feeling of tightness in the chest.

Delayed/Immediate effects: Immediate effects can be expected after short-term exposure.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

FISH: 96H LC50 = 4.26 (calculated) mg/L
DAPHNIDS (Daphnia magna): 48H EC50 = 1.83 (calculated) mg/L
ALGAE (Raphidocelis subcapitata): 72H IC50 = 0.169 (calculated) mg/L

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil**Mobility in soil**

No information available.

12.5. Results of PBT and vPvB assessment

This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Very toxic to aquatic organisms

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

| | |
|--|--|
| Waste from residues / unused products | Transfer to a suitable container and arrange for collection by specialised disposal company. Do not contaminate ponds, waterways or ditches with chemical or used containers. Do not discharge to sewer systems. |
| Contaminated Packaging | Clean container with water. Dispose of in accordance with local regulations. Dispose of rinse water in accordance with local and national guidelines. |
| EWC Waste Disposal No | 02 01 08 |
| OTHER INFORMATION | NOTE : The user's attention is drawn to the possible existence of specific European, national or local regulations regarding disposal. |

Section 14: TRANSPORT INFORMATION

IMDG/IMO

| | |
|--|---|
| 14.1 UN/ID no | UN3082 |
| 14.2 Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s (zinc oxide, dicopper oxide) |
| 14.3 Hazard class | 9 |
| 14.4 Packing Group | III |
| 14.5 Marine Pollutant | Yes |
| Environmental Hazard | Yes |
| 14.6 Special Provisions | No special precautions. Tunnel code: E Transport category: 3 |
| 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code | This product is not transported in bulk containers. |

RID

| | |
|----------------------------------|---|
| 14.1 UN/ID no | UN3082 |
| 14.2 Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s (zinc oxide, dicopper oxide) |
| 14.3 Hazard class | 9 |
| 14.4 Packing Group | III |
| 14.5 Environmental Hazard | Yes |
| 14.6 Special Provisions | No special precautions. Tunnel code: E Transport category: 3 |

ADR/RID

| | |
|---------------------------|---|
| 14.1 UN/ID no | UN3082 |
| 14.2 Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s (zinc oxide, dicopper oxide) |
| 14.3 Hazard class | 9 |
| 14.4 Packing Group | III |
| 14.5 Environmental Hazard | Yes |
| 14.6 Special Provisions | No special precautions. Tunnel code: E Transport category: 3 |

ICAO/IATA

| | |
|---------------------------|---|
| 14.1 UN/ID no | UN3082 |
| 14.2 Proper Shipping Name | Environmentally hazardous substance, liquid, n.o.s (zinc oxide, dicopper oxide) |
| 14.3 Hazard class | 9 |
| 14.4 Packing Group | III |
| 14.5 Environmental Hazard | Yes |
| 14.6 Special Provisions | No special precautions. Tunnel code: E Transport category: 3 |

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**European Union****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)
This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not Applicable

International Inventories

| Chemical name | TSCA (United States) | DSL (Canada) | EINECS/ELINC S (Europe) | ENCS (Japan) | China (IECSC) | KECL (Korea) | PICCS (Philippines) | AICS (Australia) |
|-------------------------------|-------------------------|-----------------|----------------------------|-----------------|------------------|--------------|------------------------|---------------------|
| Zinc oxide 1314-13-2 | X | X | X | X | X | X | X | X |
| Copper(+1) oxide 1317-39-1 | X | X | X | X | X | X | X | X |
| ethane-1,2-diol 107-21-1 | X | X | X | X | X | X | X | X |

15.2. Chemical safety assessment

A Chemical Safety Assessment has not yet been completed for this substance

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3

EUH208 - May produce an allergic reaction

H302 - Harmful if swallowed

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

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Legend

| | |
|-----------------|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| CAS: | CAS (Chemical Abstracts Service) |
| Ceiling: | Maximum limit value: |
| DNEL: | Derived No Effect Level (DNEL) |
| EINECS: | EINECS (European Inventory of Existing Chemical Substances) |
| GHS: | Globally Harmonised System (GHS) |
| IATA: | International Air Transport Association (IATA) |
| ICAO: | International Civil Aviation Organization |
| IMDG: | International Maritime Dangerous Goods (IMDG) |
| LC50: | LC50 (lethal concentration) |
| LD50: | LD50 (lethal dose) |
| PBT: | Persistent, Bioaccumulative, and Toxic (PBT) Chemicals |
| RID: | Regulations Concerning the International Transport of Dangerous Goods by Rail |
| STEL: | Short term exposure limit |
| SVHC | SVHC: Substances of Very High Concern for Authorisation: |
| TWA: | time weighted average |
| vPvB: | very Persistent and very Bioaccumulative |

Key literature references and sources for data

Data measured on the product are unpublished company data. Data on ingredients are available from published literature and can be found several places.

Revision date: 2020-03-20**Reason for revision:** SDS sections updated.**Training Advice** This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.**Disclaimer**

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End of Safety Data Sheet