

Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

Floranid® N31 31-0-0



Version: 3.10
Date of last issue: 06.04.2023
Date of first issue: 29.03.2016

Revision Date:
18.08.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Floranid® N31 31-0-0

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

Use of the Substance/Mixture : Fertilizer

1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH
Krögerweg 10
D-48155 Münster

Telephone : +49 (0) 251 29 79 81 – 000

Telefax : +49 (0) 251 29 79 81 - 111

E-mail address of person responsible for the SDS : info@compo-expert.com

1.4 Emergency telephone number

GBK GmbH - Global Regulatory Compliance - 24h
Telephone: +49 (0) 6132 - 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
May form explosible dust-air mixture if dispersed.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

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Chemical nature : Fertilizer
N - fertilizer contains: ,N,N'-(2-Methylpropyliden)-bis-urea, urea.

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
N,N''-(isobutylidene)diurea	6104-30-9 228-055-8 01-2119457269-28-XXXX		<= 100

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.
On inhalation of decomposition products:
In case of lung irritation, first treatment with dexametason aerosol (spray).
Keep patient calm, remove to fresh air, seek medical attention.

In case of skin contact : Wash thoroughly with soap and water.

In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water
- Unsuitable extinguishing media : Foam
Dry chemical
Carbon dioxide (CO₂)
Sand
High volume water jet
Avoid dust formation.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during firefighting : Can decompose at above 100 °C. Thermal decomposition products:
Isobutyraldehyd

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Avoid dust formation.
Keep away from sources of ignition - No smoking.
Ventilate the area.

6.2 Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system.
Retain and dispose of contaminated wash water.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Use mechanical handling equipment.

6.4 Reference to other sections

Information regarding safe handling see in section 7, For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on protection against : Finely dispersed particles form explosive mixtures with air.

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fire and explosion	Avoid formation of aerosol. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from combustible material. Take precautionary measures against static discharges. Use only explosion-proof equipment.
Hygiene measures	: At the end of the shift the skin should be cleaned and skin-care agents applied.
Dust explosion class	: Kst-value >0 up to 200 bar m s ⁻¹

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	: When stored loose do not mix with other fertilizers. Store well away from other substances. Keep away from direct sunlight. Protect against heat. Protect from contamination. Protect against humidity (product is hygroscopic and tends to cake or disintegrate)
Storage class (TRGS 510)	: 11, Combustible Solids

7.3 Specific end use(s)

Specific use(s)	: Always read the label and product information before use.
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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
N,N''-(isobutylidene)diurea	Workers	Skin contact	systemic effects	37,5 mg/m ³
Remarks:	Continuous exposure			
	Workers	Inhalation	systemic effects	66,12 mg/m ³
Remarks:	Continuous exposure			
	Consumers	Skin contact	systemic effects	18,75 mg/m ³
Remarks:	Continuous exposure			
	Consumers	Inhalation	systemic effects	16,31 mg/m ³
Remarks:	Continuous exposure			

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	Consumers	Ingestion	systemic effects	9,375 mg/m3
Remarks:	Continuous exposure			

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
N,N''-(isobutylidene)diurea	Fresh water	0,5 mg/l
	Marine water	0,05 mg/l
	Fresh water sediment	1,76 mg/l
	Marine sediment	0,176 mg/l
	Soil	10,7 mg/l
	Behaviour in waste water treatment plants	640 mg/l

8.2 Exposure controls

Personal protective equipment

Respiratory protection : respiratory protection only if aerosol or dust is formed.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Retain and dispose of contaminated wash water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : granular

Colour : white

Odour : very faint

pH : ca. 6,5, Concentration: 100 g/l (20 °C)

Melting point/range : 205 °C

Boiling point/boiling range : Not applicable

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Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: not highly flammable
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: Not applicable
Bulk density	: ca. 700 kg/m ³
Solubility(ies) Water solubility	: 2 g/l (20 °C)
Partition coefficient: n-octanol/water	: log Pow: -0,903 Method: OECD Test Guideline 107
Auto-ignition temperature	: > 140 °C
Decomposition temperature	: ca. 100 °C To avoid thermal decomposition, do not overheat. Thermal decomposition above the indicated temperature is possible.
Viscosity Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: May form explosible dust-air mixture if dispersed. Minimum ignition energy W_{min} 63 mJ < W_{min} < 152mJ (@ humidity 2.0 %; @ median particle size distribution 25 µm)
Oxidizing properties	: Not considered an oxidizing substance

9.2 Other information

Dust explosion class : Kst-value >0 up to 200 bar m s⁻¹

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

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10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : May form explosible dust-air mixture if dispersed.

10.4 Conditions to avoid

Conditions to avoid : Exposure to air or moisture over prolonged periods.
May form explosible dust-air mixture if dispersed.
Avoid dust formation.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : Isobutyraldehyd

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat): > 10.000 mg/kg

Components:

N,N''-(isobutylidene)diurea:

Acute oral toxicity : LD50 (Rat): > 10.000 mg/kg
Remarks: Calculation method

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 404
Result: non-irritant

Serious eye damage/eye irritation

Product:

Species: Rabbit

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Method: OECD Test Guideline 405
Result: non-irritant

Respiratory or skin sensitisation

Components:

N,N''-(isobutylidene)diurea:

Species: Mouse

Method: OECD Guideline 429

Result: Did not cause sensitisation on laboratory animals.

germ cell mutagenicity

Components:

N,N''-(isobutylidene)diurea:

Genotoxicity in vitro : Remarks: In vitro tests did not show mutagenic effects

Carcinogenicity

Components:

N,N''-(isobutylidene)diurea:

Remarks: Animal testing did not show any carcinogenic effects.

Reproductive toxicity

Components:

N,N''-(isobutylidene)diurea:

Effects on fertility : Remarks: Animal testing did not show any effects on fertility.

Effects on foetal development : Remarks: Did not show teratogenic effects in animal experiments.

STOT - single exposure

Components:

N,N''-(isobutylidene)diurea:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

N,N''-(isobutylidene)diurea:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

No data available

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Product:

- | | |
|---|--|
| Toxicity to fish | : (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l
Exposure time: 96 h
Test Type: LC50
Method: Directive 92/69/EEC, C.1, Acute toxicity for fish |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna): 500 mg/l
Exposure time: 48 h
Method: Directive 84/449/EEC, C.2 |
| Toxicity to algae | : EC50 (Scenedesmus subspicatus): > 500 mg/l
Exposure time: 72 h
Method: DIN 38412 |
| Toxicity to bacteria | : EC0 (Pseudomonas putida): ca. 640 mg/l
Exposure time: 16 h
Test Type: activated sludge
Method: No data available |

Components:

N,N"-(isobutylidene)diurea:

- | | |
|---|--|
| Toxicity to fish | : LC50 (Oncorhynchus mykiss (rainbow trout)): > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna): ca. 500 mg/l
Exposure time: 48 h
Method: Directive 84/449/EEC, C.2 |
| Toxicity to algae | : EC50 (Scenedesmus subspicatus): > 500 mg/l
Exposure time: 72 h
Method: DIN 38412 |

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Toxicity to bacteria : EC0 (*Pseudomonas putida*): ca. 640 mg/l

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Physico-chemical
removability : DOC reduction
ca. 85 %
Remarks: May be eliminated in purification plants

Components:

N,N''-(isobutylidene)diurea:

Biodegradability : Remarks: The product is miscible in water and readily biodegradable in both water and soil. Accumulation is not expected.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Components:

N,N''-(isobutylidene)diurea:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Product:

Distribution among
environmental compartments : Remarks: Adsorption to solid soil phase is not expected., The substance will not evaporate into the atmosphere from the water surface.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT)..

Components:

N,N''-(isobutylidene)diurea:

Assessment : Remarks: Not applicable

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12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological information	: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. There is a high probability that the product is acute not harmful to aquatic organisms.
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SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Check if agriculture use is possible. Contact manufacturer.
Contaminated packaging	: Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport information

14.1 UN number or ID number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Segregation group : : (-)

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Not applicable

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Not applicable

Water contaminating class : WGK 1 slightly water endangering
(Germany)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; 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; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; 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; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical

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Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

Further information

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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