

Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

NovaTec® Solub NK-Calcium 21-0-0



Version: 2.5
Date of last issue: 20.07.2022

Revision Date:
25.12.2022

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

1.1 Product identifier

Trade name : NovaTec® Solub NK-Calcium 21-0-0
UFI : KQH5-F07C-E001-TYTP

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

Use of the Sub-
stance/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)

Acute toxicity, Category 4 : H302: Harmful if swallowed.
Serious eye damage, Category 1 : H318: Causes serious eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.

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	H318	Causes serious eye damage.
Precautionary statements	: Prevention:	
	P264	Wash skin thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P284	In case of inadequate ventilation wear respiratory protection.
	Response:	
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310	Immediately call a POISON CENTER or doctor/ physician.
	P330	Rinse mouth.

2.3 Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture of nutrient salts based on various inorganic salts.
Contains
1H-Pyrazole, 3,4-dimethyl-,phosphate (1:1)

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
potassium nitrate	7757-79-1 231-818-8 01-2119488224-35-XXXX	Ox. Sol. 3; H272	>= 10 - <= 25
Nitric acid, ammonium calcium salt	15245-12-2 239-289-5 01-2119493947-16-XXXX	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 50 - <= 60

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled : If breathed in, move person into fresh air.

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If symptoms persist, call a physician.

- In case of skin contact : Wash off 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 : Pain
Lachrymation
- Risks : corrosive effects

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Symptoms of poisoning may not appear for several hours.
Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Water
Foam
Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Fire may cause evolution of:
Nitrogen oxides (NO_x)

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 breathing dust.
For personal protection see section 8.

6.2 Environmental precautions

- Environmental precautions : Do not empty into drains.
Retain and dispose of contaminated wash water.

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Use mechanical handling equipment.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : Protect from contamination.
Keep away from direct sunlight.
Protect against heat.
Protect from moisture.
- Advice on protection against fire and explosion : The product is not flammable. Keep away from heat and sources of ignition. Keep away from combustible materials.
- Hygiene measures : At the end of the shift the skin should be cleaned and skin-care agents applied. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep away from heat. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. When stored loose do not mix with other fertilizers. Protect against humidity (product is hygroscopic and tends to cake or disintegrate)
- Advice on common storage : Keep away from combustible materials.
- Storage class (TRGS 510) : 13, Non Combustible Solids

7.3 Specific end use(s)

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
potassium nitrate	Workers	Inhalation	Systemic effects	36,7 mg/m ³
	Workers	Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Systemic effects	12,5 mg/kg

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Remarks:	Exposure time: 1 d			
	Consumers	Skin contact	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Systemic effects	10,9 mg/m3
Nitric acid, ammonium calcium salt	Workers	Inhalation	Specific effects	24,5 mg/m3
Remarks:	Exposure time: 1 DAY			
	Workers	Skin contact	Specific effects	13,9 mg/kg
Remarks:	Exposure time: 1 DAY			
	Consumers	Inhalation	systemic effects	6,3 mg/m3
	Consumers	Skin contact	systemic effects	8,33 mg/kg
	Consumers	Ingestion	systemic effects	8,33 mg/kg
Remarks:	Exposure time: 1 DAY			

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

Substance name	Environmental Compartment	Value
potassium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
	Sewage treatment plant	18 mg/l
Nitric acid, ammonium calcium salt	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l

8.2 Exposure controls

Engineering measures

Provide adequate ventilation.

Personal protective equipment

Eye protection : Avoid contact with eyes.
Safety glasses

Hand protection
Remarks

: Protective gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.

Respiratory protection : Particle filtering disposable mask DIN EN 149 with filter FFP2.

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Environmental exposure controls

General advice : Do not empty into drains.
Retain and dispose of contaminated wash water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : crystalline

Colour : various

Odour : odourless

Odour Threshold : No data available

pH : 4 - 5, Concentration: 100 g/l (20 °C)

Melting point/range : ca. 400 °C

Boiling point/boiling range : Not applicable

Flash point : not determined

Evaporation rate : Not applicable

Flammability (solid, gas) : The product is not flammable.

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Bulk density : ca. 1.150 kg/m³

Solubility(ies)
Water solubility : soluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : Stable at normal ambient temperature and pressure.

Viscosity

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Viscosity, dynamic	: Not applicable
Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: Not considered an oxidizing substance

Particle characteristics

Particle Size Distribution	: D50 = 1.600 µm D50 Tolerance range = 1.280 µm - 1.920 µm Measurement technique: Sieve analysis
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9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Keep away from direct sunlight.
Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid : Acids
Bases
Organic materials
Reducing agents

10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

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11.1 Information on toxicological effects

Acute toxicity

Components:

potassium nitrate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,527 mg/l

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

Nitric acid, ammonium calcium salt:

Acute oral toxicity : LD50: > 300 mg/kg

Acute inhalation toxicity : Remarks: Not relevant because of low vapour pressure.

Remarks: Not relevant because of low dust formation.

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

Skin corrosion/irritation

Components:

potassium nitrate:

Species: Rabbit

Result: No skin irritation

Nitric acid, ammonium calcium salt:

Species: Rabbit

Result: No skin irritation

Serious eye damage/eye irritation

Product:

Remarks: Contact with eyes may cause irritation.

Components:

potassium nitrate:

Species: Rabbit

Result: No eye irritation

Nitric acid, ammonium calcium salt:

Species: Rabbit

Result: Irritating to eyes.

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Respiratory or skin sensitisation

Components:

potassium nitrate:

Result: non-sensitizing

Germ cell mutagenicity

Components:

potassium nitrate:

Genotoxicity in vitro : Remarks: No data available

Carcinogenicity

Components:

potassium nitrate:

Remarks: Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Components:

potassium nitrate:

Effects on fertility :
Remarks: No toxicity to reproduction

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

STOT - single exposure

Components:

potassium nitrate:

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

STOT - repeated exposure

Components:

potassium nitrate:

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

Repeated dose toxicity

Components:

potassium nitrate:

Species: Rat

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NOAEL: \geq 1.500 mg/kg
Exposure time: 1 d

Experience with human exposure

Product:

General Information : Danger of methaemoglobin formation.

Further information

Product:

Remarks: The product was not tested. The statement was derived from products of similar structure and composition.

SECTION 12: Ecological information

12.1 Toxicity

Components:

potassium nitrate:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 490 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae : LC50 : \geq 1.700 mg/l
Exposure time: 10 d

Nitric acid, ammonium calcium salt:

Toxicity to fish : LC50 (Guppy): 1.378 mg/l
Method: OECD Test Guideline 203

Toxicity to daphnia and other : LC50 (Daphnia magna (Water flea)): 490 mg/l
aquatic invertebrates

Toxicity to algae : LC50 (other aquatic plant): > 1.700 mg/l

12.2 Persistence and degradability

Components:

potassium nitrate:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

Nitric acid, ammonium calcium salt:

Biodegradability : Remarks: The methods for determining biodegradability are

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not applicable to inorganic substances.

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

Components:

potassium nitrate:

Bioaccumulation : Remarks: Does not bioaccumulate.

Nitric acid, ammonium calcium salt:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

potassium nitrate:

Mobility : Remarks: No data available

12.5 Results of PBT and vPvB assessment

Components:

potassium nitrate:

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

12.6 Other adverse effects

Product:

Additional ecological information : Fertilizer
May contribute to eutrophication in static waters, therefore should not be released into surface waters.

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.

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SECTION 14: Transport information

14.1 UN 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

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

Remarks : Not relevant

SECTION 15: Regulatory information

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

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

Other regulations : This product is subject to Regulation (EU) 2019/1148; suspicious transactions, disappearance or theft of the product must be reported to the relevant authority.

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H272 : May intensify fire; oxidizer.
H302 : Harmful if swallowed.
H318 : Causes serious eye damage.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Eye Dam. : Serious eye damage
Ox. Sol. : Oxidizing solids

(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 So-

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ciety 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 Standardization; 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 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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