Material Safety Data Sheet
according to Regulation (EC) No. 1907/2006

NovaTec® Solub 9-0-43

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

1.1 Product identifier

Trade name	:	NovaTec® Solub 9-0-43
UFI	:	0AJ5-0024-J00H-FCW4

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)

Skin corrosion/irritation, Category 2	H315: Causes skin irritation.
Serious eye damage/eye irritation, Category 1	H318: Causes serious eye damage.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:		
Signal word	:	Danger	
Hazard statements	:	H315	Causes skin irritation.
		H318	Causes serious eye damage.
Precautionary statements	:	P101	If medical advice is needed, have product container or label at hand.
		P102	Keep out of reach of children.
		P280	Wear protective gloves/ eye protection/ face protection.
		Prevention:	
		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.

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 - <= 50
potassium hydrogensulphate	7646-93-7 231-594-1	Skin Corr. 1B; H314 STOT SE 3; H335	>= 1 - <= 5
1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1)	202842-98-6 424-640-9 01-0000017109-71-0002	Acute Tox. 4; H302 Eye Irrit. 2; H319 Repr. 2; H361fd STOT RE 2; H373	>= 0,01 - <= 0,5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Take off immediately all contaminated clothing.

If inhaled : Move to fresh air.
If symptoms persist, call a physician.
If unconscious place in recovery position and seek medical advice.

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 : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water Water spray Dry chemical
Unsuitable extinguishing media	:	Carbon dioxide (CO2) Foam Sand

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Can decompose at above 130 °C. Thermal decomposition products: Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia, chloride, hydrogen chloride.

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	:	Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions	:	Do not empty into drains. 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

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	not required under normal use
Advice on protection against fire and explosion	:	The product is not flammable.
Hygiene measures	:	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	:	To maintain product quality, do not store in heat or direct sunlight. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination. Protect from moisture.
Storage class (TRGS 510)	:	13, Non Combustible Solids

7.3 Specific end use(s)

Specific use(s)	:	Always read the label and product information before use.

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/m3
	Workers	Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Systemic effects	12,5 mg/kg
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

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

8.2 Exposure controls

Personal protective equipment

Eye protection : In case of dust formation:

Tightly fitting safety goggles

Hand protection
Material : Gloves

Skin and body protection : Wearing of closed work clothing is recommended.

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

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

pH : ca. 3, Concentration: 100 g/l (20 °C)

Melting point/range : No data available

Boiling point/boiling range : Not applicable

Flash point : Not applicable

Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	The product is not flammable.
Upper explosion limit	:	Not explosive
Lower explosion limit	:	Not explosive
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	Not applicable
Bulk density	:	ca. 1.200 kg/m³
Solubility(ies)		
Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	Not applicable
Decomposition temperature	:	ca. 130 °C To avoid thermal decomposition, do not overheat.
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	Method: Manual of tests and criteria. Test O.1 (United Nations Recommendations on the Transport of Dangerous Goods). Not considered an oxidizing substance
Particle characteristics		
Particle Size Distribution	:	D50 = 370 µm D50 Tolerance range = 296 µm - 444 µm Measurement technique: Sieve analysis

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 decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Temperature 130 degrees Celsius
Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Acids
Bases
Organic materials
Powdered metals

10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NOx)
ammonia

SECTION 11: Toxicological information

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

Acute toxicity

Product:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral toxicity
Remarks: Calculation method

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

potassium hydrogensulphate:

Acute oral toxicity : LD50 Oral (Rat): 2.340 mg/kg

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Acute oral toxicity : LD50 (Rat): 200 - 2.000 mg/kg

Method: Tested according to Directive 92/69/EEC.
Remarks: The product was not tested. The statement was derived from products of similar structure and composition.

Acute inhalation toxicity : LC50 (Rat): > 5,5 mg/l
Method: OECD Test Guideline 403
Remarks: calculated

Skin corrosion/irritation

Product:

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

Components:

potassium nitrate:
Species: Rabbit
Result: No skin irritation

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):
Species: Rabbit
Method: OECD Test Guideline 404
Result: non-irritant

Serious eye damage/eye irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 405
Result: non-irritant

Components:

potassium nitrate:
Species: Rabbit
Result: No eye irritation

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):
Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritant

Respiratory or skin sensitisation

Product:

Result: non-sensitizing

Components:

potassium nitrate:
Result: non-sensitizing

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Did not cause sensitisation on laboratory animals.

germ cell mutagenicity

Product:

Genotoxicity in vitro	:	Remarks: Contains no hazardous ingredients according to GHS

Components:

potassium nitrate:

Genotoxicity in vitro	:	Remarks: No data available

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Germ cell mutagenicity-Assessment	:	Animal experiments showed mutagenic and teratogenic effects.

Carcinogenicity

Product:

Remarks: Contains no ingredient listed as a carcinogen

Components:

potassium nitrate:
Remarks: Did not show carcinogenic effects in animal experiments.

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Carcinogenicity - Assessment	:	Did not show carcinogenic effects in animal experiments.

Reproductive toxicity

Product:

Effects on fertility	:	Remarks: Contains no ingredient listed as toxic to reproduction
Effects on foetal development	:	Remarks: Contains no ingredient listed as toxic to reproduction

Components:

potassium nitrate:

Effects on fertility	:	Remarks: No toxicity to reproduction
Effects on foetal development	:	Remarks: Did not show teratogenic effects in animal experiments.

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Reproductive toxicity - Assessment	:	In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance. May damage fertility. Suspected of damaging the unborn child.

STOT - single exposure

Product:

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

Components:

potassium nitrate:

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

STOT - repeated exposure

Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, 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
NOAEL: >= 1.500 mg/kg
Exposure time: 1 d

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Remarks: The substance may cause damage to the liver after repeated ingestion of high doses, as shown in animal studies.
The substance may cause damage to the kidney after repeated ingestion of high doses, as shown in animal studies.

Aspiration hazard

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

11.2 Information on other hazards

Endocrine disrupting properties

No data available

Experience with human exposure

Product:

General Information : Danger of methaemoglobin formation.

Further information

Product:

Remarks: The toxicological data has been taken from products of similar composition.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology Assessment
Toxicity Data on Soil : Not expected to adsorb on soil.

Components:

potassium nitrate:

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

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

Toxicity to algae : LC50 : >= 1.700 mg/l
Exposure time: 10 d

potassium hydrogensulphate:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 3.500 mg/l

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Toxicity to fish	:	(zebra fish): > 100 mg/l Exposure time: 96 h Test Type: LC50 Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h
Toxicity to bacteria	:	Remarks: Disposal via sewage water treatment plants may cause impairment of the nitrification activity of the activated sludge.
Toxicity to fish (Chronic toxicity)	:	NOEC: > 8,7 mg/l Species: other
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 25 mg/l Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

potassium nitrate:

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

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Biodegradability	:	Remarks: Inherently biodegradable. According to the results of tests of biodegradability this product is not readily biodegradable.

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: Does not accumulate in organisms.

Components:

potassium nitrate:

Bioaccumulation	:	Remarks: Does not bioaccumulate.

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):

Bioaccumulation	:	Species: Pimephales sp. Exposure time: 14 d

Bioconcentration factor (BCF): 1,2
Method: Bioaccumulation: Flow-through Fish Test.
Remarks: Does not significantly accumulate in organisms. The product was not tested. The statement was derived from products of similar structure and composition.

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Remarks: Slightly mobile in soils

Components:

potassium nitrate:
Mobility : Remarks: No data available

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):
Distribution among environmental compartments : Remarks: Because of the water solubility, part of the product will dissolve.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : Remarks: No data available

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)..

1H-Pyrazole, 3,4-dimethyl-, phosphate (1:1):
Assessment : This mixture contains no substance considered to be persistent, bioaccumulating and toxic (PBT)..

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological information : Additional ecological information
The following ecotoxicological data refer to: potassium nitrate

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of wastes in an approved waste disposal facility.
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

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

Remarks	:	Not relevant

SECTION 15: Regulatory information

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

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

Not relevant

SECTION 16: Other information

Full text of H-Statements

H272	:	May intensify fire; oxidizer.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H319	:	Causes serious eye irritation.
H335	:	May cause respiratory irritation.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Irrit.	:	Eye irritation
Ox. Sol.	:	Oxidizing solids
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

(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

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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