

**Material Safety Data Sheet**

according to ANSI Z400.1-2004

NovaTec premium 15+3+20

Product code:

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General information

In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).

Wash hands thoroughly after handling.

After inhalation

Provide fresh air. In case of unconsciousness place in unconscious position and seek medical advice. In the case of lung irritation: Primary treatment using corticoide spray, eg. Dexamethason spray.

After contact with skin

After contact with skin, wash immediately with: Water and soap. If symptoms persist, seek medical advice.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. (>15 min.) In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Rinse mouth thoroughly with water. Let water be swallowed in little sips (dilution effect). In all cases of doubt, or when symptoms persist, seek medical advice.

Indication of any immediate medical attention and special treatment needed

Subsequent observation for pneumonia and pulmonary edema.

Symptomatic treatment. There is no specific antidote.

SECTION 5: Firefighting measures**Extinguishing media****Suitable extinguishing media**

Water spray.

Unsuitable extinguishing media

Foam. Carbon dioxide. Dry extinguishing powder. Sand.

Special hazards arising from the substance or mixture

Can be released in case of fire: Nitrogen oxides (NOx). Ammonia.

Advice for firefighters

Wear a self-contained breathing apparatus and chemical resistant suit.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Waste disposal according to official state regulations.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Do not breathe dust. Avoid contact with skin, eye and clothing.

Beat down dust with water spray.

See protective measures under point 7 and 8.

Environmental precautions

Do not empty into drains or the aquatic environment.

Methods and material for containment and cleaning up

Collect mechanically.

Treat the assimilated material according to the section on waste disposal.

Clear contaminated area thoroughly.

SECTION 7: Handling and storage**Precautions for safe handling**

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Advice on safe handling

Wear suitable protective clothing. (Refer to chapter 8.)
Do not eat, drink, smoke or sneeze at the workplace. Notice the directions for use on the label.

Advice on protection against fire and explosion

Usual measures for fire prevention.
Keep away from sources of ignition - No smoking. Keep away from combustible material.
The product itself is not combustible.

Further information on handling

Keep only in the original container.

Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed in a cool, well-ventilated place.
Protect against: UV-radiation/sunlight. heat. moisture. (This product is hygroscopic)

Advice on storage compatibility

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Infectious substances.
Radioactive substances. Food and fodder. Non-combustible toxic substances. Combustible toxic substances. peroxides. Pyrophoric Substances. Substances or mixtures which, in contact with water emit flammable gases:

Further information on storage conditions

do not mix with: other fertilizers.
Do not mix with other chemicals.
Protect from contamination

SECTION 8: Exposure controls/personal protection**Control parameters****Exposure limits**

CAS No	Components	ppm	mg/m ³	fib/cc	Category	Origin
12179-04-3	Borates, tetra, sodium salts (Pentahydrate)	-	1		TWA (8 h)	REL

Additional advice on limit values

Parameter:
DNEL (ammonium nitrate) = 37,6 mg/m³
Category: worker
Exposure route: inhalation.
Potential health effects: Specific effects
Exposure time: 1 d

Parameter:
DNEL (ammonium nitrate) = 21,3 mg/kg
Category: worker
Exposure route: Skin contact
Potential health effects: Specific effects
Exposure time: 1 d

DNEL (ammonium nitrate) = 12,8 mg/kg
Category: consumer.
Exposure route: Ingestion
Potential health effects: Specific effects
Exposure time: 1 d

DNEL (ammonium nitrate) = 11,1 mg/m³

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Category: consumer.
Exposure route: inhalation.
Potential health effects: Specific effects
Exposure time: 1 d

Exposure controls**Occupational exposure controls**

Avoid generation of dust.
In the case of high dust generation:
In case of open handling, use devices with built-in suction where possible.
If suction of the immediate vicinity is impossible or insufficient, adequate airing of the working place must be ensured.

Protective and hygiene measures

Always close containers tightly after the removal of product. Wash hands before breaks and at the end of work. Keep away from food, drink and animal feedingstuffs.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection required in case of:
Generation/formation of dust
exceeding critical value
Suitable respiratory protective equipment: particulates filter device (DIN EN 143).
Type: P1 or N95-N100 particle filter

Hand protection

Hand protection: not required. Wash hands thoroughly after handling.

Eye protection

Eye protection: not required. Avoid generation of dust.
In the case of the formation of dust.: Dust protection goggles.

Skin protection

Suitable protection of the body: Protective clothing.

Environmental exposure controls

Do not empty into drains or the aquatic environment.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties**

Physical state: granulate
Color: variable
Odor: odorless

pH-Value (at 20 °C): ~5 (100g/L)

Test method**Changes in the physical state**

Melting point: not determined
Boiling point: not determined
Flash point: N/A

Explosive properties

Product itself is not explosive.

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Ignition temperature: not determined

Oxidizing properties

Keep away from combustible material.

Vapour pressure: N/A

Bulk density: 1150 kg/m³

Water solubility: soluble.

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

SECTION 10: Stability and reactivity

Stability: Stable

Possibility of Hazardous Reactions: Will not occur

Conditions to avoid

Protect against: UV-radiation/sunlight. heat. moisture.

Incompatible materials

Materials to avoid: Reducing agents. Sulphur, chlorites, chloride, chlorates, hypochlorites, acidic or alkaline substances, flammable, oxidising substances, nitrites, metal salts, metal powders, herbicides, chlorinated hydrocarbons, organic compounds.

Hazardous decomposition productsCan be released in case of fire: Nitrogen oxides (NO_x). Ammonia.**SECTION 11: Toxicological information****Information on toxicological effects****Toxicocinetics, metabolism and distribution**

No information available.

Acute toxicity

Product:

LD 50: > 2000 mg/kg, Rat.

product has not been tested. The statement is derived from products of similar structure or composition.

CAS No	Chemical name	Exposure routes	Method	Dose	Species
6484-52-2	ammonium nitrate	oral	LD50	2950 mg/kg	Rat. (OECD- 401)
		dermal	LD50	>5000 mg/kg	Rabbit. (OECD- 402)
		inhalative (4 h)	LC50	> 88,8 mg/l	Rat.
12179-04-3	disodium tetraborate pentahydrate; borax pentahydrate	oral	LD50	3200 - 3400 mg/kg	Rat.
		dermal	LD50	>2000 mg/kg	Rabbit.
		inhalative	LC50	> 2 mg/l	Rat. (OECD 403)

Specific effects in experiment on an animal

No information available.

Irritation and corrosivity

Product:

Irritant effect on the eye: Not an irritant. (OECD 405)

Irritant effect on the skin: Not an irritant. (OECD 404)

product has not been tested. The statement is derived from products of similar structure or composition.

disodium tetraborate pentahydrate; borax pentahydrate:

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Irritant effect on the eye: irritant.
Irritant effect on the skin: Not an irritant.

ammonium nitrate
Irritant effect on the eye: irritant. (OECD 405)
Irritant effect on the skin: Not an irritant. (OECD 404)

Sensitizing effects

Product is not: Sensitizing
The statement is derived from the properties of the components.

Severe effects after repeated or prolonged exposure

ammonium nitrate:
Subacute oral toxicity: NOAEL > 1500 mg/kg (Rat., 28d)
Chronic oral toxicity: NOAEL = 256 mg/kg (Rat., 52 w)
Subacute inhalative toxicity: NOAEL > 185 mg/kg (Rat., 14d)

Carcinogenic/mutagenic/toxic effects for reproduction

ammonium nitrate:
In-vitro mutagenicity: Ames test negative. (OECD 471)
disodium tetraborate pentahydrate; borax pentahydrate:
Evidence for: In-vitro mutagenicity

disodium tetraborate pentahydrate; borax pentahydrate:
Evidence for: In-vitro mutagenicity

SECTION 12: Ecological information**Toxicity**

CAS No	Chemical name	Aquatic toxicity	Method	Dose	h Species
6484-52-2	ammonium nitrate	Acute fish toxicity	LC50	>100 mg/l	96
		Acute algae toxicity	ErC50	1700 mg/l	72 Selenastrum capricornutum
		Acute crustacea toxicity	EC50	490 mg/l	
12179-04-3	disodium tetraborate pentahydrate; borax pentahydrate	Acute fish toxicity	LC50	74 mg/l	96 Limanda limanda
		Acute algae toxicity	EC10	24 mg/l	96 algae
		Acute crustacea toxicity	EC50	242 mg/l	24 Daphnia magna

Persistence and degradability

The product acts as a fertilizer in the soil and is degraded within a few weeks.
ammonium nitrate:
The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

No indication of bio-accumulation potential.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

No information available.

Other adverse effects

Depending on local conditions and existing concentrations, in the case of discharge into biological sewage treatment plants, problems in the decomposition activity of activated sludge are possible. The Product is not acutely harmful with a high probability to aquatic organisms. At higher pH values, as they

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occur naturally in water, an increase in toxicity to aquatic organisms is expected.

Further information

PNEC (ammonium nitrate):
fresh water: 0,45 mg/l
sea water: 0,045 mg/l
Limitation of exposure peaks: 4,5 mg/l

SECTION 13: Disposal considerations**Waste treatment methods****Advice on disposal**

Waste disposal according to official state regulations. Consult the local waste disposal expert about waste disposal.

Contaminated packaging

Cleaned containers may be recycled.

SECTION 14: Transport information**US DOT 49 CFR 172.101****Proper shipping name**Not a hazardous material with respect to these transport regulations. &&
Not controlled under DOT.**Marine transport****Other applicable information**

No dangerous good in sense of this transport regulation.

Air transport**Other applicable information**

No dangerous good in sense of this transport regulation.

Environmental hazards

Dangerous for the environment: no

SECTION 15: Regulatory information**U.S. Regulations****National Inventory TSCA**

ammonium nitrate: listed
disodium tetraborate pentahydrate; borax pentahydrate: listed (13840-56-7)
magnesium sulfate: listed
potassium sulfate: listed

SARA

ammonium nitrate: not listed
disodium tetraborate pentahydrate; borax pentahydrate: not listed
magnesium sulfate: not listed
potassium sulfate: not listed

SECTION 16: Other information**Hazardous Materials Information Label (HMIS)**

Health: 1
Flammability: 1
Physical Hazard: 1
Personal Protection: -

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NFPA Hazard Ratings

Health:	1
Flammability:	1
Reactivity:	1
Unique Hazard:	

**Other data**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)