

NTN-SNR ROULEMENTS Ready Booster / Ready Booster 60

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SECTION 1: Identification of the substance / preparation and of the company

- 1.1 Product identifier
Ready Booster / Ready Booster 60
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- 1.2.1 Relevant uses
Lubrication system
- 1.2.2 Uses advised against
None known.
- 1.3 Details of the supplier of the safety data sheet
- Company
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- Safety Data Sheet
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SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- 2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]
- Ox. Liq. 2: H272 May intensify fire; oxidiser.
Acute Tox. 3: H301 Toxic if swallowed.
Skin Irrit. 2: H315 Causes skin irritation.
Eye Irrit. 2: H319 Causes serious eye irritation.
STOT SE 3: H335 May cause respiratory irritation.
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.
Carc. 1A: H350i May cause cancer by inhalation.
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.
- 2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC
- O, Oxidizing - R 8: Contact with combustible material may cause fire.
T+, Very toxic - R 28: Very toxic if swallowed.
Xi, Irritant - R 36/37/38: Irritating to eyes, respiratory system and skin.
N, Dangerous for the environment - R 51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 32: Contact with acids liberates very toxic gas.
Sensitizing. - R 43: May cause sensitisation by skin contact.
Xn, Harmful - R 48/20: Harmful - danger of serious damage to health by prolonged exposure through inhalation.
- 2.2 Label elements
- This product is an article and therefore it does not require labelling according to EC directives/GefStoffV.

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2.3 Other hazards

Physico-chemical hazards

The structural design of the cells prevents release of the hazardous media contained therein when the unit is used for its intended purpose.

The device contains an inaccessible stock of hazardous substances in a closed cartridge in order to produce the gases needed for operation (nitric oxide/hydrogen). Do not therefore open the device or cartridge by force. Do not touch any substances that escape in the event of damage to the cartridge, and place the damaged cartridge in a closed container. While doing so, wear protective gloves and avoid contact with skin. Contact the manufacturer immediately. Further information is available on request.

Human health dangers

The contained dangerous materials are not freely available with foreseeable use.

Environmental hazards

The contained dangerous materials are not freely available with foreseeable use.

Other hazards

No particular hazards known.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is an article.

Range [%]	Substance
20 - <30	magnesium perchlorate
	CAS: 10034-81-8, EINECS/ELINCS: 233-108-3
	GHS/CLP: Ox. Sol. 2: H272 - Eye Irrit. 2: H319 - Skin Irrit. 2: H315 - STOT SE 3: H335
	EEC: O-Xi, R 8-36/37/38
10 - <15	Sodium azide
	CAS: 26628-22-8, EINECS/ELINCS: 247-852-1, EU-INDEX: 011-004-00-7
	GHS/CLP: Acute Tox. 2: H300 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410
	EEC: T+-N, R 28-32-50/53
0,1 - <0,25	Nickel sulphate
	CAS: 7786-81-4, EINECS/ELINCS: 232-104-9, EU-INDEX: 028-009-00-5, ECB-Nr.: 01-2119439361-44-xxxx
	GHS/CLP: Carc. 1A: H350i - Muta. 2: H341 - Repr. 1B: H360D - STOT RE 1: H372 - Acute Tox. 4: H302 H332 - Skin Irrit. 2: H315 - Resp. Sens. 1: H334 - Skin Sens. 1: H317 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M = 1
	EEC: T-N, R 49-61-68-48/23-20/22-38-42/43-50/53

Comment on component parts

The concentrations of the ingredients are valid for gas generation cell. They are not for the complete system.

One or several components are named in PRTR Register (Pollutant Release and Transfer Register). See SECTION 3.

The structural design prevents release of the hazardous media contained therein when the unit is used for its intended purpose.

For full text of H-statements and R-phrases: see SECTION 16.

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Measures are only valid for damaged lubrication systems.

Adhere to personal protective measures when giving first aid.

Inhalation

Consult a doctor immediately.

Remove the victim into fresh air and keep him calm.

Skin contact

In case of contact with skin wash off immediately with soap and water.

Consult a doctor if skin irritation persists.

Eye contact

In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.

Ingestion

Consult a doctor immediately.

Induce the patient to vomit of his own accord only if fully conscious.

Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

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4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
Forward this sheet to the doctor.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide.
Water spray jet.
Dry powder.
Foam.

Extinguishing media that must not be used

none

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Nitrogen oxides (NOx).
Hydrogen chloride (HCl).

5.3 Advice for firefighters

Use self-contained breathing apparatus.
Wear full protective suit.

Cool containers at risk with water spray jet.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Lock off contaminated area.
Use breathing apparatus if exposed to vapours/dust/aerosol.
Use personal protective equipment.
Keep people away and stay on the upwind side.

6.2 Environmental precautions

Do not discharge leakages into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Dispose of absorbed material in accordance within the regulations.
Take up residues with absorbent material (e.g. sand, sawdust, generalpurpose binder, diatomaceous earth).

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

No special measures necessary if used correctly.

Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

No special measures necessary.
Do not store with combustible materials.
Protect from heat/overheating.
Keep container tightly closed.

7.3 Specific end use(s)

See product use, SECTION 1.2

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SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance
10 - < 20	Sodium azide
	CAS: 26628-22-8, EINECS/ELINCS: 247-852-1, EU-INDEX: 011-004-00-7
	Long-term exposure: 0,1 mg/m ³ , Sk
	Short-term exposure (15-minute): 0,3 mg/m ³
0,1 - < 1	Nickel sulphate
	CAS: 7786-81-4, EINECS/ELINCS: 232-104-9, EU-INDEX: 028-009-00-5, ECB-Nr.: 01-2119439361-44-xxxx
	Long-term exposure: 0,1 mg/m ³ , as Ni, Sk, Sen

Ingredients with occupational exposure limits to be monitored (EU)

Range [%]	Substance / EC LIMIT VALUES
10 - < 20	Sodium azide
	CAS: 26628-22-8, EINECS/ELINCS: 247-852-1, EU-INDEX: 011-004-00-7
	Eight hours: 0,1 mg/m ³ , H
	Short-term (15-minute): 0,3 mg/m ³

DNEL

Range [%]	Substance
0,1 - < 0,25	Nickel sulphate, CAS: 7786-81-4
	Industrial, inhalative, Long-term - local effects: 0,05 mg/m ³ .
	Industrial, inhalative, Long-term - systemic effects: 0,05 mg/m ³ .
	Industrial, inhalative, Acute - local effects: 0,7 mg/m ³ .
	Industrial, inhalative, Acute - systemic effects: 16 mg/m ³ .
	Industrial, dermal, Long-term - local effects: 0,00044 mg/cm ² .
	worker, inhalative, Long-term - local effects: 0,05 mg/m ³ .
	worker, inhalative, Long-term - systemic effects: 0,05 mg/m ³ .
	worker, inhalative, Acute - local effects: 0,7 mg/m ³ .
	worker, inhalative, Acute - systemic effects: 16 mg/m ³ .
	worker, dermal, Long-term - local effects: 0,00044 mg/cm ² .
	general population, inhalative, Long-term - local effects: 0,02 mg/m ³ .
	general population, inhalative, Long-term - systemic effects: 0,02 mg/m ³ .
	general population, inhalative, Acute - local effects: 0,4 mg/m ³ .
	general population, inhalative, Acute - systemic effects: 9,6 mg/m ³ .

PNEC

Range [%]	Substance
0,1 - < 0,25	Nickel sulphate, CAS: 7786-81-4
	soil, 134 mg/kg.
	seawater, 0,039 mg/l.
	freshwater, 0,016 mg/l.

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8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. Butyl rubber, >480 min (EN 374).
Skin protection	Protective overalls.
Other	Measures are only valid for damaged cells. Avoid contact with eyes. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
Respiratory protection	If ventilation insufficient, wear respiratory protection.
Thermal hazards	No information available.
Delimitation and monitoring of the environmental exposition	not determined

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	capsule
Odour threshold	not applicable
pH-value	8,3 - 8,8
pH-value [1%]	not determined
Boiling point [°C]	not determined
Flash point [°C]	not applicable
Flammability [°C]	not determined
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	not determined
Bulk density [kg/m³]	not applicable
Solubility in water	miscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	not applicable
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	not determined
Decomposition temperature [°C]	not determined

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

See SECTION 10.3.

10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

10.3 Possibility of hazardous reactions

Reactions with acids and strong oxidizing agents.

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10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Range [%]	Substance
10 - <15	Sodium azide, CAS: 26628-22-8
	LD50, dermal, Rabbit: 20 mg/kg bw (RTECS).
	LD50, oral, Rat: 27 mg/kg bw (RTECS).
0,1 - <0,25	Nickel sulphate, CAS: 7786-81-4
	LD50, oral, Rat: 275 - 325 mg/kg (IUCLID).

Serious eye damage/irritation not determined

Skin corrosion/irritation not determined

Respiratory or skin sensitisation not determined

Specific target organ toxicity — single exposure not determined

Specific target organ toxicity — repeated exposure not determined

Mutagenicity not determined

Reproduction toxicity not determined

Carcinogenicity not determined

General remarks The contained ingredients can be harmful to humans, but are hermetically enclosed in article and can not be released.

Toxicological data of complete product are not available.

The product was classified on the basis of the calculation procedure of the preparation directive.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
10 - <15	Sodium azide, CAS: 26628-22-8
	LC50, (96h), <i>Lepomis macrochirus</i> : 0,7 mg/l (ECOTOX).
	EC50, (48h), <i>Daphnia pulex</i> : 4,2 mg/l (ECOTOX).
0,1 - <0,25	Nickel sulphate, CAS: 7786-81-4
	LC50, <i>Daphnia magna</i> : 0,18 mg/l (Lit).
	LC50, (24h), <i>Brachidanio rerio</i> : > 100 mg/l (IUCLID).
	EC50, (48h), <i>Daphnia magna</i> : 1 mg/l (IUCLID).
	NOEC, (48h), <i>Daphnia magna</i> : 9,48 mg/l (IUCLID).

12.2 Persistence and degradability

Behaviour in environment compartments not determined

Behaviour in sewage plant not applicable

Biological degradability not applicable

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12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Ecological data of complete product are not available.

The contained ingredients can be harmful for the environment, but they are hermetically enclosed in article and can not be released.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
For recycling, consult manufacturer.

Waste no. (recommended)

150110*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID

UN 3363 Dangerous Goods in apparatus (No dangerous goods, according ADR in accordance to 1.1.3.1. b))

- Classification Code

M11

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code)

Inland navigation (ADN)

UN 3363 Dangerous Goods in apparatus (No dangerous goods, according ADR in accordance to 1.1.3.1. b))

- Classification Code

M11

Marine transport in accordance with IMDG

UN 3363 Dangerous Goods in apparatus 9 -

- EMS

F-A, S-P

- Label



- MDG LQ

SV301

Air transport in accordance with IATA UN 3363 Dangerous goods in apparatus 9

- Label



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14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No information available.

SECTION 15: Regulatory information

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

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2013); MDG-Code (2013, 36. Amdt.); IATA-DGR (2013).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for young people. Observe employment restrictions for women of child-bearing age, for mothers-to-be and nursing mothers and for young people.
- VOC (1999/13/CE)	not applicable

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1 R-phrases (SECTION 3)

R 8: Contact with combustible material may cause fire.
 R 36/37/38: Irritating to eyes, respiratory system and skin.
 R 28: Very toxic if swallowed.
 R 32: Contact with acids liberates very toxic gas.
 R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R 49: May cause cancer by inhalation.
 R 61: May cause harm to the unborn child.
 R 68: Possible risk of irreversible effects.
 R 48/23: Toxic - danger of serious damage to health by prolonged exposure through inhalation.
 R 20/22: Harmful by inhalation and if swallowed.
 R 38: Irritating to skin.
 R 42/43: May cause sensitisation by inhalation and skin contact.

16.2 Hazard statements (SECTION 3)

H317 May cause an allergic skin reaction.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H302+H332 Harmful if swallowed or if inhaled.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H360D May damage the unborn child.
 H341 Suspected of causing genetic defects.
 H350i May cause cancer by inhalation.
 H410 Very toxic to aquatic life with long lasting effects.
 H400 Very toxic to aquatic life.
 H300 Fatal if swallowed.
 H335 May cause respiratory irritation.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H272 May intensify fire; oxidiser.

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16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 TLV@TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.4 Other information

Customs Tariff	not determined
Classification procedure	<p>Ox. Liq. 2: H272 May intensify fire; oxidiser. (Calculation method) Acute Tox. 3: H301 Toxic if swallowed. (Calculation method) Skin Irrit. 2: H315 Causes skin irritation. (Calculation method) Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method) STOT SE 3: H335 May cause respiratory irritation. (Calculation method) STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method) Carc. 1A: H350i May cause cancer by inhalation. (Calculation method) Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)</p>
Modified position	none