

This safety data sheet complies with the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

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Revision Number 1
ENG

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) LK1-CB104101-100

Product Name 100 mL, 7500 Series PA Tuning solution #1 mg/L in 5% HNO₃ 20 As, Be Cd, Zn 10 Mg, Ni, Pb 5 Al, Ba, Bi, Co, Cr, Cu, In Li+6, Lu, Mn, Na, Sc, Sr, Th, Tl, U, V 2.5 Y, Yb

REACH registration number Not applicable

CAS No. Not applicable

Contains Nitric Acid, Beryllium Nitrate, Nickel Nitrate

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

Recommended Use Laboratory chemicals
Production of chemical substance

Uses advised against Not for human consumption

1.3. Details of the supplier of the safety data sheet

Manufacturer
LabKings B.V
Utrechtseweg 5, 1213TK Hilversum, The Netherlands
+31 84 875 63 44
www.labkings.com

1.4. Emergency telephone number

Emergency Telephone Chemtrec, Inside the USA: 1-800-424-9300
Chemtrec, Outside the USA: 001-703-527-3887

Europe	112
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Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Inhalation (Vapors)	Category 3 - (H331)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Corrosive to metals	Category 1 - (H290)

2.2. Label elements

Regulation (EC) No 1272/2008
Contains Nitric Acid, Beryllium Nitrate, Nickel Nitrate



Signal word
Danger

Hazard statements

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

H290 - May be corrosive to metals

Precautionary Statements - EU (§28, 1272/2008)

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P321 - Specific treatment (see supplemental first aid instructions on this label)

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

P280 - Wear eye protection/ face protection

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

P406 - Store in corrosive resistant container with a resistant inner liner

2.3. Other hazards

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The exact concentration of each component can be found on the Certificate of Analysis

Chemical name	CAS No.	Weight-%
Water	7732-18-5	94.98
Nitric Acid	7697-37-2	5
Zinc Nitrate	7779-88-6	0.002
Cadmium(II) nitrate	10325-94-7	0.002
Beryllium Nitrate	13597-99-4	0.002
Arsenic Metal	7440-38-2	0.002
Nickel Nitrate	13138-45-9	0.001
Magnesium Nitrate Hexahydrate	13446-18-9	0.001
Lead Nitrate	10099-74-8	0.001
Uranyl Nitrate	13520-83-7	0.0005
Thorium Nitrate	13470-07-0	0.0005
Thallium Nitrate	10102-45-1	0.0005
Strontium Nitrate	10042-76-9	0.0005
Sodium Nitrate	7631-99-4	0.0005
Scandium Nitrate	107552-14-7	0.0005
Manganese nitrate hydrate	15710-66-4	0.0005
Lutetium(III) nitrate hydrate	100641-16-5	0.0005
Lithium Nitrate	7790-69-4	0.0005

Indium(III) nitrate hydrate	207398-97-8	0.0005
Copper Nitrate	3251-23-8	0.0005
Chromium Nitrate	10103-47-6	0.0005
Bismuth(III) nitrate hydrate	10361-44-1	0.0005
Barium Nitrate	10022-31-8	0.0005
Ammonium MetaVanadate	7803-55-6	0.0005
Aluminum Nitrate Nonahydrate	7784-27-2	0.0005
1Cobalt	10026-22-9	0.0005
Yttrium Oxide	1314-36-9	0.00025
ytterbium(3+);trinitrate;pentahydrate	35725-34-9	0.00025

3.2 Mixtures

Chemical name	CAS No.	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Water	7732-18-5	No data available
Nitric Acid	7697-37-2	Skin Corr. 1A (H314) (EUH071) Ox. Liq. 2 (H272)
Zinc Nitrate	7779-88-6	No data available
Cadmium(II) nitrate	10325-94-7	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Beryllium Nitrate	13597-99-4	Acute Tox. 3 (H301) Acute Tox. 2 (H330) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Carc. 1B (H350i) STOT SE 3 (H335) STOT RE 1 (H372) Aquatic Chronic 2 (H411)
Arsenic Metal	7440-38-2	Acute Tox. 3 (H301) Acute Tox. 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Nickel Nitrate	13138-45-9	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Muta. 2 (H341) Carc. 1A (H350i) Repr. 1B (H360D) STOT RE 1 (H372) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Ox. Sol. 2 (H272)
Magnesium Nitrate Hexahydrate	13446-18-9	No data available
Lead Nitrate	10099-74-8	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Repr. 1A (H360Df) STOT RE 2 (H373) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Uranyl Nitrate	13520-83-7	Acute Tox. 2 (H300) Acute Tox. 2 (H330) STOT RE 2 (H373) Aquatic Chronic 2 (H411)
Thorium Nitrate	13470-07-0	No data available
Thallium Nitrate	10102-45-1	Acute Tox. 2 (H300) Acute Tox. 2 (H330) STOT RE 2 (H373) Aquatic Chronic 2 (H411)
Strontium Nitrate	10042-76-9	No data available
Sodium Nitrate	7631-99-4	No data available
Scandium Nitrate	107552-14-7	No data available
Manganese nitrate hydrate	15710-66-4	No data available
Lutetium(III) nitrate hydrate	100641-16-5	No data available
Lithium Nitrate	7790-69-4	No data available
Indium(III) nitrate hydrate	207398-97-8	No data available
Copper Nitrate	3251-23-8	No data available
Chromium Nitrate	10103-47-6	No data available
Bismuth(III) nitrate hydrate	10361-44-1	No data available
Barium Nitrate	10022-31-8	Acute Tox. 4 (H302) Acute Tox. 4 (H332)
Ammonium MetaVanadate	7803-55-6	No data available
Aluminum Nitrate Nonahydrate	7784-27-2	No data available
1Cobalt	10026-22-9	No data available
Yttrium Oxide	1314-36-9	No data available
ytterbium(3+);trinitrate;pentahydrate	35725-34-9	No data available

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Immediate medical attention may be required. Show this safety data sheet to the doctor in attendance.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. IF exposed or concerned: Get medical advice/attention.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
Ingestion	Do not induce vomiting without medical advice. Rinse mouth thoroughly with water. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	Skin irritation. Eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical, CO₂, alcohol-resistant foam or water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Wear protective gloves/protective clothing and eye/face protection. Handle within a fume cupboard or implement suitable equivalent methods to minimize exposure.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Place in appropriate chemical waste container.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation. Use personal protection equipment. Handle in a fume cupboard.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. For more information, see product label and/or certificate of analysis.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Nitric Acid 7697-37-2	-	STEL: 1 ppm STEL: 2.6 mg/m ³	STEL: 1 ppm STEL: 2.6 mg/m ³	STEL: 1 ppm STEL: 2.6 mg/m ³	TWA: 1 ppm TWA: 2.6 mg/m ³
Cadmium(II) nitrate 10325-94-7	-	TWA: 0.025 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³	-
Beryllium Nitrate 13597-99-4	-	TWA: 0.002 mg/m ³	TWA: 0.002 mg/m ³	TWA: 0.0002 mg/m ³	-
Arsenic Metal 7440-38-2	-	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	-	TWA: 0.01 mg/m ³	-
Nickel Nitrate 13138-45-9	-	TWA: 0.1 mg/m ³ Sk*	-	TWA: 0.1 mg/m ³	-
Lead Nitrate 10099-74-8	-	TWA: 0.15 mg/m ³	TWA: 0.1 mg/m ³	TWA: 0.15 mg/m ³	-
Uranyl Nitrate 13520-83-7	-	-	-	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³	-
Thallium Nitrate 10102-45-1	-	TWA: 0.1 mg/m ³ Sk*	-	TWA: 0.1 mg/m ³ via dérmica*	-
Manganese nitrate hydrate 15710-66-4	-	TWA: 0.5 mg/m ³	-	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³
Barium Nitrate 10022-31-8	TWA: 0.5 mg/m ³ Ba	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³
Ammonium MetaVanadate 7803-55-6	-	-	-	-	TWA: 0.005 mg/m ³ TWA: 0.03 mg/m ³
Aluminum Nitrate Nonahydrate 7784-27-2	-	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 2 mg/m ³	-
1Cobalt 10026-22-9	-	TWA: 0.1 mg/m ³	-	TWA: 0.02 mg/m ³	-
Yttrium Oxide 1314-36-9	-	-	-	TWA: 1 mg/m ³	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Nitric Acid 7697-37-2	STEL: 1 ppm STEL: 2.6 mg/m ³	TWA: 2 ppm STEL: 4 ppm	STEL: 1.3 mg/m ³	TWA: 0.5 ppm TWA: 1.3 mg/m ³ STEL: 1 ppm STEL: 2.6 mg/m ³	-
Cadmium(II) nitrate	-	TWA: 0.002 mg/m ³	-	TWA: 0.02 mg/m ³	TWA: 0.005 mg/m ³

10325-94-7				ih ^o *	
Beryllium Nitrate 13597-99-4	-	TWA: 0.002 mg/m ³ STEL: 0.01 mg/m ³	-	TWA: 0.0001 mg/m ³ STEL: 0.0004 mg/m ³	TWA: 0.001 mg/m ³
Arsenic Metal 7440-38-2	-	TWA: 0.01 mg/m ³	TWA: 0.0028 mg/m ³	TWA: 0.01 ppm	TWA: 0.01 mg/m ³
Nickel Nitrate 13138-45-9	-	TWA: 0.1 mg/m ³	-	TWA: 0.05 mg/m ³ TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³
Lead Nitrate 10099-74-8	TWA: 0.15 mg/m ³	TWA: 0.05 mg/m ³	-	-	TWA: 0.05 mg/m ³
Uranyl Nitrate 13520-83-7	-	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 0.2 mg/m ³
Thallium Nitrate 10102-45-1	-	TWA: 0.1 mg/m ³	-	TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ H*
Manganese nitrate hydrate 15710-66-4	-	TWA: 0.2 mg/m ³	-	TWA: 0.2 mg/m ³ TWA: 0.02 mg/m ³	TWA: 0.2 mg/m ³
Copper Nitrate 3251-23-8	-	-	-	TWA: 1 mg/m ³	-
Barium Nitrate 10022-31-8	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³
Aluminum Nitrate Nonahydrate 7784-27-2	-	TWA: 2 mg/m ³	-	-	TWA: 1 mg/m ³
1Cobalt 10026-22-9	-	TWA: 0.02 mg/m ³	-	TWA: 0.02 mg/m ³	TWA: 0.01 mg/m ³
Yttrium Oxide 1314-36-9	-	TWA: 1 mg/m ³	-	TWA: 1 mg/m ³	TWA: 1 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Nitric Acid 7697-37-2	STEL 1 ppm STEL 2.6 mg/m ³	TWA: 2 ppm TWA: 5 mg/m ³ STEL: 2 ppm STEL: 5 mg/m ³	STEL: 2.6 mg/m ³ TWA: 1.4 mg/m ³	TWA: 2 ppm TWA: 5 mg/m ³ STEL: 2 ppm STEL: 5 mg/m ³	STEL: 1 ppm STEL: 2.6 mg/m ³
Cadmium(II) nitrate 10325-94-7	-	TWA: 0.015 mg/m ³ H*	TWA: 0.01 mg/m ³ TWA: 0.002 mg/m ³	TWA: 0.05 mg/m ³ STEL: 0.05 mg/m ³	TWA: 0.002 mg/m ³ TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³ STEL: 0.006 mg/m ³
Beryllium Nitrate 13597-99-4	-	TWA: 0.002 mg/m ³	TWA: 0.0002 mg/m ³	TWA: 0.001 mg/m ³ STEL: 0.001 mg/m ³	TWA: 0.0002 mg/m ³ STEL: 0.0006 mg/m ³
Arsenic Metal 7440-38-2	-	-	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³
Nickel Nitrate 13138-45-9	-	-	TWA: 0.25 mg/m ³	TWA: 0.05 mg/m ³ STEL: 0.05 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³
Lead Nitrate 10099-74-8	TWA: 0.1 mg/m ³ STEL 0.4 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.8 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³ STEL: 0.05 mg/m ³	TWA: 0.15 mg/m ³ STEL: 0.45 mg/m ³
Uranyl Nitrate 13520-83-7	TWA: 0.25 mg/m ³ STEL 1 mg/m ³	TWA: 0.2 mg/m ³ H*	STEL: 0.12 mg/m ³ TWA: 0.015 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.2 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³
Thallium Nitrate 10102-45-1	TWA: 0.1 mg/m ³ STEL 1 mg/m ³	TWA: 0.1 mg/m ³ H*	STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ H*	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Sk*
Manganese nitrate hydrate 15710-66-4	TWA: 0.5 mg/m ³ STEL 2 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.2 mg/m ³ TWA: 0.05 mg/m ³	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL: 1 ppm STEL: 0.1 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³
Copper Nitrate 3251-23-8	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³ STEL 4 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.2 mg/m ³	TWA: 0.2 mg/m ³	-	-

	STEL 0.4 mg/m ³				
Barium Nitrate 10022-31-8	TWA: 0.5 mg/m ³ STEL 2 mg/m ³	TWA: 0.5 mg/m ³ STEL: 4 mg/m ³	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³ STEL: 0.5 mg/m ³	TWA: 0.5 mg/m ³ STEL: 1.5 mg/m ³
Aluminum Nitrate Nonahydrate 7784-27-2	-	TWA: 2 mg/m ³	-	TWA: 2 mg/m ³ STEL: 2 mg/m ³	TWA: 2 mg/m ³ STEL: 6 mg/m ³
1Cobalt 10026-22-9	H*	TWA: 0.05 mg/m ³ H*	TWA: 0.02 mg/m ³	TWA: 0.02 mg/m ³ STEL: 0.02 mg/m ³ STEL: 0.06 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³
Yttrium Oxide 1314-36-9	-	-	TWA: 1 mg/m ³	-	-

Biological occupational exposure limits

Chemical name	European Union	United Kingdom	France	Spain	Germany
Arsenic Metal 7440-38-2	-	-	-	35	
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Arsenic Metal 7440-38-2	-	-	-	70	
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Arsenic Metal 7440-38-2	-	50	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Apply technical measures to comply with the occupational exposure limits. Showers, eyewash stations, and ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand Protection Protective gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Wash hands thoroughly after handling.

Skin and body protection Wear suitable protective clothing. Chemical resistant apron. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	May vary
Odor	May vary.
Color	May vary
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	0°C	None known
Boiling point / boiling range	100° C	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	23 hPa (17 mm Hg)	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening point	No information available
Molecular weight (g/mol)	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity	Stable under normal conditions.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous decomposition products Nitrogen oxides (NO_x).

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Information on toxicological effects

Symptoms Skin irritation. Eye irritation.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document mg/kg

ATEmix (inhalation-dust/mist)	2.60 mg/l
ATEmix (inhalation-vapor)	3.45 mg/l

Unknown acute toxicity 5.02 % of the mixture consists of ingredient(s) of unknown toxicity.
5.02 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
5.02 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
5.02 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
0.02 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
0.02 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		
Nitric Acid			= 67 ppm (Rat) 4 h = 130 mg/m ³ (Rat) 4 h
Cadmium(II) nitrate	= 300 mg/kg (Rat)		
Arsenic Metal	= 15 mg/kg (Rat) = 763 mg/kg		

	(Rat)		
Magnesium Nitrate Hexahydrate	= 5440 mg/kg (Rat)		
Lead Nitrate	= 93 mg/kg (Rat)		
Strontium Nitrate	= 2750 mg/kg (Rat) = 1892 mg/kg (Rat)		
Sodium Nitrate	= 1267 mg/kg (Rat)		
Copper Nitrate	= 794 mg/kg (Rat)		
Barium Nitrate	= 355 mg/kg (Rat)		
Ammonium MetaVanadate	= 58100 µg/kg (Rat) = 58.1 mg/kg (Rat)	= 2102 mg/kg (Rat)	= 7800 µg/m ³ (Rat) 4 h
Aluminum Nitrate Nonahydrate	= 3671 mg/kg (Rat)		
1Cobalt	= 691 mg/kg (Rat)		

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Irritating to skin.

Serious eye damage/eye irritation Irritating to eyes. Risk of serious damage to eyes.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity If this product is a mixture, the classification is not based on toxicology studies for this product, but is based solely on toxicology studies for ingredients found within this product. More detailed substance and/or ingredient information may be provided in the other sections of this SDS. Contains a known or suspected mutagen.

Chemical name	European Union
Nickel Nitrate	Muta. 2

Carcinogenicity Contains a known or suspected carcinogen.

Chemical name	European Union
Beryllium Nitrate	Carc. 1B
Nickel Nitrate	Carc. 1A

Reproductive toxicity Contains a known or suspected reproductive toxin.

Chemical name	European Union
Nickel Nitrate	Repr. 1B
Lead Nitrate	Repr. 1A

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Nitric Acid	-	72: 96 h Gambusia affinis mg/L LC50	-	-
Zinc Nitrate	-	7.8: 96 h Cyprinus carpio mg/L LC50 static	-	-

Sodium Nitrate	-	2000: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 994.4 - 1107: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	-	-
Ammonium MetaVanadate	-	1.5: 144 h <i>Poecilia reticulata</i> mg/L LC50	-	-

12.2. Persistence and degradability

Persistence and degradability This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.3. Bioaccumulative potential

Bioaccumulation No information available.

Chemical name	Partition coefficient
Nitric Acid	-2.3
Sodium Nitrate	-3.8

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

IMDG

14.1 UN/ID no. UN3264
14.2 Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s.
14.3 Hazard Class 8
14.4 Packing Group III
14.5 Marine pollutant No information available
14.6 Special Provisions No information available
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available

RID

14.1 UN/ID no.	UN3264
14.2 Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
14.3 Hazard Class	8
14.4 Packing Group	III
14.5 Environmental hazard	No information available
14.6 Special Provisions	No information available

ADR

14.1 UN/ID no.	UN3264
14.2 Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
14.3 Hazard Class	8
14.4 Packing Group	III
14.5 Environmental hazard	No information available
14.6 Special Provisions	No information available

IATA

14.1 UN/ID no.	UN3264
14.2 Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s.
14.3 Hazard Class	8
14.4 Packing Group	III
14.5 Environmental hazard	No information available
14.6 Special Provisions	No information available

Section 15: REGULATORY INFORMATION

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

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
Beryllium Nitrate 13597-99-4	RG 33	-
Arsenic Metal 7440-38-2	RG 20, RG 20bis	-
Nickel Nitrate 13138-45-9	RG 37, RG 37bis	-
Lead Nitrate 10099-74-8	RG 1	-

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Nickel Nitrate - 13138-45-9	28. 30.	

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

TSCA	Does not comply
DSL/NDL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Report

A Chemical Safety Assessment has not been carried out for this substance

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H302 - Harmful if swallowed

H332 - Harmful if inhaled

H360Df - May damage the unborn child. Suspected of damaging fertility

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H300 - Fatal if swallowed

H330 - Fatal if inhaled

H411 - Toxic to aquatic life with long lasting effects

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H318 - Causes serious eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317 - May cause an allergic skin reaction

H341 - Suspected of causing genetic defects if swallowed

H350i - May cause cancer by inhalation

H360D - May damage the unborn child

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H272 - May intensify fire; oxidizer

H301 - Toxic if swallowed

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

EUH071 - Corrosive to the respiratory tract

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Prepared By LabKings B.V.

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This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet