

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.14

Revision Date 14.04.2023

Print Date 20.09.2023

GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

1.1 Product identifiers

Product name : Multielement standard solution 4 for ICP

Product Number : 51844

Brand : Sigma-Aldrich

REACH No. : This product is a mixture. REACH Registration Number see section 3.

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

Identified uses : Scientific research and development

1.3 Details of the supplier of the safety data sheet

Company : Merck Life Science spol. s r. o.
Na Hřebenech II 1718/10
CZ-140 00 PRAGUE

Telephone : +420 246 003-251

E-mail address : TechnicalService@merckgroup.com

1.4 Emergency telephone

Emergency Phone # : +420 228880039(CHEMTREC)
+420 224919293/224915402
(Toxikologické informační středisko)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals (Category 1), H290
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318
Skin sensitization (Category 1), H317
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008



Pictogram



Signal Word

Danger

Hazard statement(s)

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P234

Keep only in original packaging.

P261

Avoid breathing mist or vapors.

P273

Avoid release to the environment.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH071

Corrosive to the respiratory tract.

Reduced Labeling (<= 125 ml)

Pictogram



Signal Word

Danger

Hazard statement(s)

H317

May cause an allergic skin reaction.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P261

Avoid breathing mist or vapors.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard information (EU)

EUH071

Corrosive to the respiratory tract.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Component		Classification	Concentration
nitric acid			
CAS-No.	7697-37-2	Ox. Liq. 3; Met. Corr. 1; Acute Tox. 3; Skin Corr. 1A; Eye Dam. 1; H272, H290, H331, H314, H318 Concentration limits: >= 1 %: Met. Corr. 1, H290; 1 - < 5 %: Skin Irrit. 2, H315; 1 - < 3 %: Eye Irrit. 2, H319; >= 3 %: 1, H318; >= 65 %: Ox. Liq. 3, H272; >= 20 %: Skin Corr. 1A, H314; 5 - < 20 %: Skin Corr. 1B, H314; >= 3 %: Eye Dam. 1, H318; 1 - < 3 %: Eye Irrit. 2, H319; 1 - < 5 %: Skin Irrit. 2, H315;	>= 10 - < 20 %
EC-No.	231-714-2		
Index-No.	007-030-00-3		
Registration number	01-2119487297-23-XXXX		
nickel(II) nitrate			
CAS-No.	13138-45-9	Ox. Sol. 2; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Carc. 1A; Repr. 1B; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H332, H315, H318, H334, H317, H341, H350, H360, H372, H400, H410 Concentration limits: >= 1 %: STOT RE 1, H372; 0,1 - < 1 %: STOT RE 2, H373; >= 20 %: Skin Irrit. 2, H315; >= 0,01 %: Skin Sens. 1, H317; M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	>= 0,025 - < 0,1 %
EC-No.	236-068-5		
	*		
Copper(II) nitrate			
CAS-No.	3251-23-8	Ox. Sol. 2; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H314, H318, H400,	>= 0,025 - < 0,1 %
EC-No.	221-838-5		
Registration number	01-2119969290-34-		



XXXX		H410 M-Factor - Aquatic Acute: 10 M-Factor - Aquatic Chronic: 1	
Lead(II) nitrate Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)			
CAS-No.	10099-74-8	Ox. Sol. 2; Acute Tox. 4; Eye Dam. 1; Skin Sens. 1; Carc. 2; Repr. 1A; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H332, H318, H317, H351, H360FD, H372, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1	≥ 0,025 - < 0,1 %
EC-No.	233-245-9		
Index-No.	082-001-00-6		
Registration number	01-2119492475-28- XXXX		
selenium dioxide			
CAS-No.	7446-08-4	Acute Tox. 3; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H373, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10	≥ 0,025 - < 0,1 %
EC-No.	231-194-7		
Index-No.	034-002-00-8 *		
Arsenic trioxide Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)			
CAS-No.	1327-53-3	Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; Carc. 1A; Aquatic Chronic 1; H300, H314, H318, H350, H410 M-Factor - Aquatic Acute: 10	≥ 0,025 - < 0,1 %
EC-No.	215-481-4		
Index-No.	033-003-00-0 *		

*A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.



If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.



6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.

Tightly closed.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)



Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,11 mm
Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|-------------------|
| a) Physical state | liquid |
| b) Color | colorless, clear |
| c) Odor | No data available |
| d) Melting point/freezing point | No data available |
| e) Initial boiling point and boiling range | No data available |
| f) Flammability (solid, gas) | No data available |
| g) Upper/lower flammability or explosive limits | No data available |
| h) Flash point | Not applicable |



- | | |
|---|--|
| i) Autoignition temperature | Not applicable |
| j) Decomposition temperature | No data available |
| k) pH | No data available |
| l) Viscosity | Viscosity, kinematic: No data available
Viscosity, dynamic: No data available |
| m) Water solubility | at 20 °C soluble |
| n) Partition coefficient: n-octanol/water | No data available |
| o) Vapor pressure | No data available |
| p) Density | No data available |
| Relative density | No data available |
| q) Relative vapor density | No data available |
| r) Particle characteristics | No data available |
| | |
| s) Explosive properties | Not classified as explosive. |
| t) Oxidizing properties | none |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

10.4 Conditions to avoid

no information available

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

In the event of fire: see section 5



SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: Possible symptoms:, mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Acute toxicity estimate Inhalation - 4 h - > 20 mg/l - vapor(Calculation method)

Dermal: No data available

Skin corrosion/irritation

Remarks: Mixture causes burns.

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

Mixture may cause an allergic skin reaction.

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.



Components

nitric acid

Acute toxicity

Oral: No data available

Acute toxicity estimate Inhalation - 4 h - 2,65 mg/l - vapor
(Expert judgment)

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes severe burns.

Remarks: (IUCLID)

Remarks: Causes poorly healing wounds.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes burns.

Remarks: (IUCLID)

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

nickel(II) nitrate

Acute toxicity

LD50 Oral - Rat - male - 325 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 1,3 - 4,5 mg/l - dust/mist

(OECD Test Guideline 403)

Dermal: No data available



Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage.
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: positive

May cause an allergic skin reaction.
(Maximization Test)

Germ cell mutagenicity

In vitro tests showed mutagenic effects which were not observed with in vivo test.

Carcinogenicity

Human carcinogen.

Reproductive toxicity

Presumed human reproductive toxicant

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

Copper(II) nitrate**Acute toxicity**

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - In vitro study

Result: Corrosive

(OECD Test Guideline 431)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

Maximization Test - Guinea pig



Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 486
Species: Rat - male
Result: negative
Method: Regulation (EC) No. 440/2008, Annex, B.12
Species: Mouse - male and female
Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Lead(II) nitrate

Acute toxicity

Oral: No data available
Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist
(Expert judgment)
Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)
Remarks: (in analogy to similar products)
The value is given in analogy to the following substances: Lead(II) oxide red

Skin corrosion/irritation

Skin - In vitro study
Result: non-corrosive
(OECD Test Guideline 431)
Skin - In vitro study
Result: No skin irritation - 42 min
(OECD Test Guideline 439)

Serious eye damage/eye irritation

Eyes - Bovine cornea
Result: Causes serious eye damage. - 4 h
(OECD Test Guideline 437)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse



Result: positive
(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Remarks: (in analogy to similar products)
(ECHA)

Species: Rat - female - Red blood cells (erythrocytes)

Result: positive

Remarks: (in analogy to similar products)
(ECHA)

The value is given in analogy to the following substances: lead(II) acetate

Species: Monkey - male - lymphocyte

Result: positive

Remarks: (in analogy to similar products)
(ECHA)

Species: Mouse - male - Liver cells

Result: negative

Remarks: (in analogy to similar products)
(ECHA)

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

May damage the unborn child. Positive evidence from human epidemiological studies.

May damage fertility. Positive evidence from human epidemiological studies.

Specific target organ toxicity - single exposure

Acute inhalation toxicity - Possible damages: , mucosal irritations

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

- Blood, Central nervous system, Immune system, Kidney

Aspiration hazard

No data available

selenium dioxide

Acute toxicity

LD50 Oral - Rat - 68,1 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Convulsions or effect on seizure threshold.

LC50 Inhalation - 4 h - 0,51 mg/l - dust/mist

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available



Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

Arsenic trioxide**Acute toxicity**

LD50 Oral - Rat - 14,6 mg/kg

Remarks: (IUCLID)

(Lit.)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks: (in analogy to similar products)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli

Result: negative

Remarks: The value is given in analogy to the following substances: sodium arsenite

Carcinogenicity

May cause cancer. Positive evidence from human epidemiological studies.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available



Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

Components

nitric acid

No data available

nickel(II) nitrate

Toxicity to fish	semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 15,3 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Ceriodaphnia dubia (water flea) - 0,0744 mg/l - 48 h Remarks: (ECHA)



Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 0,0815 - 0,148 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - Sludge Treatment - 33 mg/l - 30 min (ISO 8192)
Toxicity to fish(Chronic toxicity)	flow-through test NOEC - Pimephales promelas (fathead minnow) - 0,057 mg/l - 32 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Ceriodaphnia dubia (water flea) - 0,0053 - 0,0153 mg/l - 7 d Remarks: (ECHA)

Copper(II) nitrate

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 0,19 mg/l - 96 h Remarks: (ECHA) The value is given in analogy to the following substances: Copper(II) nitrate trihydrate
Toxicity to daphnia and other aquatic invertebrates	static test - Daphnia magna (Water flea)

Lead(II) nitrate

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,1 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1,8 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	EC50 - algae - 0,024 - 0,029 mg/l - 28 h Remarks: (Lit.)
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Pimephales promelas (fathead minnow) - 1,337 mg/l - 7 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Ceriodaphnia dubia (water flea) - 0,0224 mg/l - 7 d (US-EPA)

selenium dioxide

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 2,9 mg/l -
------------------	--



96,0 h

Toxicity to algae Growth inhibition EC50 - Scenedesmus acutus - 0,1 mg/l - 3 d
Growth inhibition LOEC - Pseudokirchneriella subcapitata -
24,63 mg/l - 6 d

Arsenic trioxide

Toxicity to fish flow-through test - Pimephales promelas (fathead minnow) -
12,6 mg/l - 96 h
(US-EPA)
Remarks: The value is given in analogy to the following
substances: sodium arsenite

Toxicity to bacteria Remarks: (ECHA)

Toxicity to daphnia NOEC - Daphnia magna (Water flea) - 0,63 mg/l - 28 d
and other aquatic Remarks: (External MSDS)
invertebrates(Chronic
toxicity)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2031 IMDG: 2031 IATA: 2031

14.2 UN proper shipping name

ADR/RID: NITRIC ACID
IMDG: NITRIC ACID
IATA: Nitric acid

14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

Tunnel restriction code : (E)
Further information : No data available



SECTION 15: Regulatory information

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

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

Authorisations and/or restrictions on use

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

Listed substance / Sunset Date : Arsenic trioxide / 21.05.2015
Ammonium dichromate /
21.09.2017

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Lead(II) nitrate
Arsenic trioxide
Cadmium nitrate
Ammonium dichromate

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors : nitric acid

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ENVIRONMENTAL HAZARDS

: ENVIRONMENTAL HAZARDS

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

EUH071	Corrosive to the respiratory tract.
H272	May intensify fire; oxidizer.
H290	
H300	May be corrosive to metals.
H301	Fatal if swallowed.
H302	Toxic if swallowed.
H314	Harmful if swallowed.
H315	Causes severe skin burns and eye damage.



H317	May intensify fire; oxidizer.
H318	May be corrosive to metals.
H319	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H332	Causes skin irritation.
H334	May cause an allergic skin reaction.
H341	Causes serious eye damage.
H350	May damage fertility. May damage the unborn child.
H351	Causes serious eye irritation.
H360	Toxic if inhaled.
H360FD	Harmful if inhaled.
H372	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H373	Suspected of causing genetic defects.
H400	May intensify fire; oxidizer.
H410	Causes severe skin burns and eye damage.
H411	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; 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; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; 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; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative



Classification of the mixture

Met. Corr.1	H290
Skin Corr.1B	H314
Eye Dam.1	H318
Skin Sens.1	H317
Aquatic Chronic2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

