

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Description:** Cesium nitrate, Ionization Buffer Solution, Specpure®  
**Cat No. :** 45294  
**Molecular Formula** 1% Cs (as Cs<sub>2</sub> CO<sub>3</sub>) in 5% HN O<sub>3</sub>

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

#### Company

Thermo Fisher (Kandel) GmbH  
 Erlenbachweg 2, 76870 Kandel, Germany  
 Tel: +49 (0) 721 84007 280  
 Fax: +49 (0) 721 84007 300

**Swiss distributor** - Fisher Scientific AG  
 Neuhofstrasse 11, CH 4153 Reinach  
 Tel: +41 (0) 56 618 41 11  
<https://www.fishersci.ch/ch/en/customer-help-support/forms/email-us.html>

**E-mail address** [begel.sdsdesk@thermofisher.com](mailto:begel.sdsdesk@thermofisher.com)

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:  
 Tox Info Suisse Emergency Number: **145 (24hr)**  
 Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)  
 Chemtrec (24h) Toll-Free: 0800 564 402  
 Chemtrec Local: +41-43 508 20 11 (Zurich)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

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Substances/mixtures corrosive to metal

Category 1 (H290)

## **Health hazards**

Skin Corrosion/Irritation  
Serious Eye Damage/Eye Irritation

Category 1 B (H314)  
Category 1 (H318)

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**



Signal Word

**Danger**

## **Hazard Statements**

H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage

## **Precautionary Statements**

P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

## **2.3. Other hazards**

This product does not contain any known or suspected endocrine disruptors

## **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.2. Mixtures**

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Water	7732-18-5	231-791-2	93.78	-
Nitric acid	7697-37-2	231-714-2	5.00	Ox. Liq. 3 (H272) Met. Corr. 1 (H290) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Eye Dam. 1 (H318) (EUH071)
Cesium carbonate	534-17-8	EEC No. 208-591-9	1.22	Eye Dam. 1 (H318) Repr. 2 (H361f) STOT RE 2 (H373)

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Component	Specific concentration limits (SCL's)	M-Factor	Component notes
Nitric acid	Ox. Liq. 2 :: C>=99% Ox. Liq. 3 :: 65%<=C<99% Acute Tox. 1 (inhal) :: C>=70% Acute Tox. 3 (inhal) :: 70%>C>=26.5% Acute Tox. 4 (inhal) :: 26.5%>C>=13.25% Skin Corr. 1A :: C>=20% Skin Corr. 1B :: 5%<=C<20% Met. Corr. 1 :: C>=2% EUH071 :: C>=20%	-	-

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid	-	-	ATE = 2.65 mg/L (vapours)

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.
Inhalation	If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

### 4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Not combustible. CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

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## Extinguishing media which must not be used for safety reasons

No information available.

## 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

## Hazardous Combustion Products

Nitrogen oxides (NO<sub>x</sub>), Metal oxides.

## 5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

### 6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

### 6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

## Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 7.2. Conditions for safe storage, including any incompatibilities

Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Technical Rules for Hazardous Substances (TRGS) 510**  
**Storage Class (LGK) (Germany)**

Storage Class/LGK 8B

**Switzerland - Storage of hazardous substances**

Storage class - SC 8  
<https://www.kvu.ch/de/themen/stoffe-und-produkte>  
<https://www.kvu.ch/fr/themes/substances-et-produits>  
<https://www.kvu.ch/it/temi/sostanze-e-prodotti>

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## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
Nitric acid	STEL: 1 ppm (15min) STEL: 2.6 mg/m <sup>3</sup> (15min)	STEL: 1 ppm 15 min STEL: 2.6 mg/m <sup>3</sup> 15 min	STEL / VLCT: 1 ppm. indicative limit STEL / VLCT: 2.6 mg/m <sup>3</sup> . indicative limit	STEL: 1 ppm 15 minuten STEL: 2.6 mg/m <sup>3</sup> 15 minuten	STEL / VLA-EC: 1 ppm (15 minutos). STEL / VLA-EC: 2.6 mg/m <sup>3</sup> (15 minutos).

Component	Italy	Germany	Portugal	The Netherlands	Finland
Nitric acid	STEL: 1 ppm 15 minuti. Short-term STEL: 2.6 mg/m <sup>3</sup> 15 minuti. Short-term	TWA: 1 ppm (8 Stunden). AGW - TWA: 2.6 mg/m <sup>3</sup> (8 Stunden). AGW -	STEL: 1 ppm 15 minutos STEL: 2.6 mg/m <sup>3</sup> 15 minutos TWA: 2 ppm 8 horas	STEL: 1.3 mg/m <sup>3</sup> 15 minuten	TWA: 0.5 ppm 8 tunteina TWA: 1.3 mg/m <sup>3</sup> 8 tunteina STEL: 1 ppm 15 minuutteina STEL: 2.6 mg/m <sup>3</sup> 15 minuutteina

Component	Austria	Denmark	Switzerland	Poland	Norway
Nitric acid	MAK-KZGW: 1 ppm 15 Minuten MAK-KZGW: 2.6 mg/m <sup>3</sup> 15 Minuten	STEL: 1 ppm 15 minutter STEL: 2.6 mg/m <sup>3</sup> 15 minutter	STEL: 2 ppm 15 Minuten STEL: 5 mg/m <sup>3</sup> 15 Minuten TWA: 2 ppm 8 Stunden TWA: 5 mg/m <sup>3</sup> 8 Stunden	STEL: 2.6 mg/m <sup>3</sup> 15 minutach TWA: 1.4 mg/m <sup>3</sup> 8 godzinach	TWA: 2 ppm 8 timer TWA: 5 mg/m <sup>3</sup> 8 timer STEL: 4 ppm 15 minutter. value calculated STEL: 10 mg/m <sup>3</sup> 15 minutter. value calculated

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
Nitric acid	STEL : 1 ppm STEL : 2.6 mg/m <sup>3</sup>	STEL-KGVI: 1 ppm 15 minutama. STEL-KGVI: 2.6 mg/m <sup>3</sup> 15 minutama.	STEL: 1 ppm 15 min STEL: 2.6 mg/m <sup>3</sup> 15 min	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> 8 hodinách. Ceiling: 2.5 mg/m <sup>3</sup>

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
Nitric acid	STEL: 1 ppm 15 minutites. STEL: 2.6 mg/m <sup>3</sup> 15 minutites.	STEL: 1 ppm 15 min STEL: 2.6 mg/m <sup>3</sup> 15 min	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 2.6 mg/m <sup>3</sup> 15 percekben. CK	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Nitric acid	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup> TWA: 0.78 ppm TWA: 2 mg/m <sup>3</sup>	STEL: 1 ppm STEL: 2.6 mg/m <sup>3</sup>	STEL: 1 ppm 15 Minuten STEL: 2.6 mg/m <sup>3</sup> 15 Minuten	STEL: 1 ppm 15 minuti STEL: 2.6 mg/m <sup>3</sup> 15 minuti	STEL: 1 ppm 15 minute STEL: 2.6 mg/m <sup>3</sup> 15 minute

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Nitric acid	Skin notation MAC: 2 mg/m <sup>3</sup>	Ceiling: 2.6 mg/m <sup>3</sup>	TWA: 1 ppm 8 urah TWA: 2.6 mg/m <sup>3</sup> 8 urah STEL: 1 ppm 15 minutah STEL: 2.6 mg/m <sup>3</sup> 15 minutah	Binding STEL: 1 ppm 15 minuter Binding STEL: 2.6 mg/m <sup>3</sup> 15 minuter TLV: 0.5 ppm 8 timmar. NGV	STEL: 1 ppm 15 dakika STEL: 2.6 mg/m <sup>3</sup> 15 dakika

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				TLV: 1.3 mg/m <sup>3</sup> 8 timmar. NGV	
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## Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

## Monitoring methods

MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry

MDHS 99 Metals in air by ICP-AES

## Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Cesium carbonate 534-17-8 ( 1.22 )				DNEL = 2.08mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Cesium carbonate 534-17-8 ( 1.22 )				DNEL = 0.73mg/m <sup>3</sup>

## Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Cesium carbonate 534-17-8 ( 1.22 )	PNEC = 1.21mg/L	PNEC = 4.7mg/kg sediment dw	PNEC = 0.916mg/L	PNEC = 97mg/L	PNEC = 0.24mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
Cesium carbonate 534-17-8 ( 1.22 )	PNEC = 0.12mg/L	PNEC = 0.47mg/kg sediment dw			

## 8.2. Exposure controls

### Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

#### Eye Protection

Goggles (European standard - EN 166)

#### Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber Nitrile rubber Neoprene PVC	See manufacturers recommendations	-	EN 374	(minimum requirement)

#### Skin and body protection

Long sleeved clothing.

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Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
When RPE is used a face piece Fit Test should be conducted

**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		
Odor	No information available	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Flash Point	No information available	<b>Method -</b> No information available
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	No data available	
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	<b>log Pow</b>	
Nitric acid	-2.3	
Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	No data available	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

### 9.2. Other information

**Molecular Formula** 1% Cs (as Cs<sub>2</sub> CO<sub>3</sub>) in 5% HN O<sub>3</sub>

## SECTION 10: STABILITY AND REACTIVITY

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## 10.1. Reactivity

None known, based on information available

## 10.2. Chemical stability

Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

### Hazardous Polymerization

No information available.

### Hazardous Reactions

None under normal processing.

## 10.4. Conditions to avoid

Incompatible products. Excess heat.

## 10.5. Incompatible materials

Strong bases.

## 10.6. Hazardous decomposition products

Nitrogen oxides (NOx). Metal oxides.

## SECTION 11: TOXICOLOGICAL INFORMATION

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

#### Product Information

#### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

No data available

Inhalation

No data available

#### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Nitric acid	-	-	LC50 = 2500 ppm. (Rat) 1h
Cesium carbonate	LD50 = 2333 mg/kg ( Rat )	-	-

Component	ECHA (RAC) ATE (Oral)	ECHA (RAC) ATE (Dermal)	ECHA (RAC) ATE (Inhalation)
Nitric acid	-	-	ATE = 2.65 mg/L (vapours)

#### (b) skin corrosion/irritation;

Category 1 B

#### (c) serious eye damage/irritation;

Category 1

#### (d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

#### (e) germ cell mutagenicity;

No data available

#### (f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

#### (g) reproductive toxicity;

No data available

#### (h) STOT-single exposure;

No data available



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(i) STOT-repeated exposure; No data available  
Target Organs No information available.

(j) aspiration hazard; No data available

**Symptoms / effects, both acute and delayed** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

## 11.2. Information on other hazards

**Endocrine Disrupting Properties** Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity effects** May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Cesium carbonate	LC50: >97 mg/l/96H (Danio rerio)	EC50: 91.6 mg/l/48H (Daphnia magna)	EC50: 130 mg/l/72H (Pseudokirchneriella subcapitata)

**12.2. Persistence and degradability** Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist.  
**Persistence**  
**Degradation in sewage treatment plant** Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**12.3. Bioaccumulative potential** May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Nitric acid	-2.3	No data available

**12.4. Mobility in soil** The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

**12.5. Results of PBT and vPvB assessment** No data available for assessment.

### 12.6. Endocrine disrupting properties

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**12.7. Other adverse effects**  
**Persistent Organic Pollutant**  
**Ozone Depletion Potential**

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

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## 13.1. Waste treatment methods

<b>Waste from Residues/Unused Products</b>	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>European Waste Catalogue (EWC)</b>	According to the European Waste Catalog, Waste Codes are not product specific, but application specific.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer. Large amounts will affect pH and harm aquatic organisms.
<b>Switzerland - Waste Ordinance</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance, ADWO) SR 814.600 <a href="https://www.fedlex.admin.ch/eli/cc/2015/891/en">https://www.fedlex.admin.ch/eli/cc/2015/891/en</a>

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

<b>14.1. UN number</b>	UN3264
<b>14.2. UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>14.3. Transport hazard class(es)</b>	8
<b>14.4. Packing group</b>	III

### ADR

<b>14.1. UN number</b>	UN3264
<b>14.2. UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>14.3. Transport hazard class(es)</b>	8
<b>14.4. Packing group</b>	III

### IATA

<b>14.1. UN number</b>	UN3264
<b>14.2. UN proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>14.3. Transport hazard class(es)</b>	8
<b>14.4. Packing group</b>	III

<b>14.5. Environmental hazards</b>	No hazards identified
<b>14.6. Special precautions for user</b>	No special precautions required.
<b>14.7. Maritime transport in bulk according to IMO instruments</b>	Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

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Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Water	7732-18-5	231-791-2	-	-	X	X	KE-35400	X	-
Nitric acid	7697-37-2	231-714-2	-	-	X	X	KE-25911	X	X
Cesium carbonate	534-17-8	208-591-9	-	-	X	X	KE-05432	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Water	7732-18-5	X	ACTIVE	X	-	X	X	X
Nitric acid	7697-37-2	X	ACTIVE	X	-	X	X	X
Cesium carbonate	534-17-8	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

## Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Water	7732-18-5	-	-	-
Nitric acid	7697-37-2	-	Use restricted. See item 75. (see link for restriction details)	-
Cesium carbonate	534-17-8	-	-	-

## REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

## Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Water	7732-18-5	Not applicable	Not applicable
Nitric acid	7697-37-2	Not applicable	Not applicable
Cesium carbonate	534-17-8	Not applicable	Not applicable

## Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

## Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

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 .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

## National Regulations

**UK** - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

## WGK Classification

Water endangering class = 1 (self classification)

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Nitric acid	WGK1	
Cesium carbonate	WGK2	

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## Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Nitric acid 7697-37-2 ( 5.00 )	Prohibited and Restricted Substances		

## 15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

## SECTION 16: OTHER INFORMATION

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

H290 - May be corrosive to metals  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage  
H272 - May intensify fire; oxidizer  
H361 - Suspected of damaging fertility or the unborn child  
EUH071 - Corrosive to the respiratory tract

### Legend

**CAS** - Chemical Abstracts Service

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

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (volatile organic compound)

### Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

**Physical hazards** On basis of test data

**Health Hazards** Calculation method

**Environmental hazards** Calculation method

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Prepared By	Health, Safety and Environmental Department
Revision Date	17-Mar-2024
Revision Summary	New emergency telephone response service provider.

**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.  
COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No  
1907/2006 .**

**For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2,  
Number 3, Chemo (SR 813.11 - Ordinance on Protection against Dangerous Substances and  
Preparations).**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**