## Safety data sheet

CHEMICALS, INC.	Safety data sheet according to 1907/2006/EC, Article 31	Page 1/7
P	rinting date 21.07.2021	Revision: 21.07.2021
	SECTION 1: Identification of the substance/mixture and of the company/	undertaking
	· 1.1 Product identifier	
	· Trade name: <u>Cesium nitrate (99.99%-Cs) PURATREM</u>	
	<ul> <li>Item number: 93-5545</li> <li>CAS Number: 7789-18-6</li> <li>EC number: 232-146-8</li> <li>1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.</li> </ul>	
	<ul> <li>• 1.3 Details of the supplier of the safety data sheet</li> <li>• Manufacturer/Supplier: Strem Chemicals, Inc.</li> <li>7 Mulliken Way</li> <li>NEWBURYPORT, MA 01950</li> <li>USA info@strem.com</li> </ul>	
	<ul> <li>Further information obtainable from: Technical Department</li> <li>1.4 Emergency telephone number: EMERGENCY: CHEMTREC: + 1 (800) 424-9300 During normal opening times: +1 (978) 499-1600</li> </ul>	
	SECTION 2: Hazards identification	
	<ul> <li>2.1 Classification of the substance or mixture</li> <li>Classification according to Regulation (EC) No 1272/2008</li> <li>GHS07</li> <li>Skin Irrit. 2 H315 Causes skin irritation.</li> <li>Eye Irrit. 2 H319 Causes serious eye irritation.</li> </ul>	
	STOT SE 3 H335 May cause respiratory irritation.	
	<ul> <li>• 2.2 Label elements</li> <li>• Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.</li> <li>• Hazard pictograms</li> <li>• GHS07</li> </ul>	
	· Signal word Warning	
	<ul> <li>Hazard-determining components of labelling: caesium nitrate</li> <li>Hazard statements H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.</li> <li>Precautionary statements P101 If medical advice is needed, have product container or label at hand.</li> </ul>	
	1 101 If measure is needed, have product container or tabel at hand.	(Contd. on page 2)

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#### Trade name: Cesium nitrate (99.99%-Cs) PURATREM

	(Contd. of page 1)
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P221	Take any precaution to avoid mixing with combustibles.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P33	8 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
· 2.3 Other hazards	

- · Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · vPvB: Not applicable.

#### **SECTION 3: Composition/information on ingredients**

- · 3.1 Chemical characterisation: Substances
- · CAS No. Description
- 7789-18-6 caesium nitrate
- · Identification number(s)
- **EC number:** 232-146-8

#### **SECTION 4: First aid measures**

- 4.1 Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact:
- Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: If symptoms persist consult doctor.
- · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- $\cdot$  4.3 Indication of any immediate medical attention and special treatment needed
- No further relevant information available.

## **SECTION 5: Firefighting measures**

- · 5.1 Extinguishing media
- · Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

## **SECTION 6:** Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Not required.
- · 6.2 Environmental precautions: No special measures required.

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#### Trade name: Cesium nitrate (99.99%-Cs) PURATREM

(Contd. of page 2)

- 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.
- 6.4 Reference to other sections
   See Section 7 for information on safe handling.
   See Section 8 for information on personal protection equipment.
   See Section 13 for disposal information.

## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling Ensure good ventilation/exhaustion at the workplace. • Information about fire - and explosion protection: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· 7.3 Specific end use(s) No further relevant information available.

#### **SECTION 8: Exposure controls/personal protection**

• Additional information about design of technical facilities: No further data; see item 7.

- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

• Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

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The exact break through time has to be found out by the manufacturer of the protective gloves and has to beserved. Experimentations  9.1 Information on basic physical and chemical properties General Information Appearance: Form: Colour: Odourthess Odour threshold: Odourtess Odourthreshold: Not determined.  PH-value: Not applicable.  Flammability (solid, gas): Not determined.  Flash point: Decomposition temperature: Not determined.  Explosive properties: Froduct does not present an explosion hazard.  Explosive properties: Not determined.  Yapour pressure: Not applicable.  Partino coefficient: n-octanol/water: Not		(Contd. of
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Lower:Not determined.Upper:Not determined.Vapour pressure:Not applicable.Density at 20 °C:3.685 g/cm³Bulk density at 20 °C:1.500 kg/m³Relative densityNot determined.Vapour densityNot applicable.Evaporation rateNot applicable.Solubility in / Miscibility with water at 20 °C:150 g/lPartition coefficient: n-octanol/water:Not determined.Viscosity: Dynamic: Kinematic:Not applicable.Solvent content: Organic solvents: VOC (EC)0.0 %	Explosive properties:	Product does not present an explosion hazard.
Upper:Not determined.Vapour pressure:Not applicable.Density at 20 °C:3.685 g/cm³Bulk density at 20 °C:1.500 kg/m³Relative densityNot determined.Vapour densityNot applicable.Evaporation rateNot applicable.Solubility in / Miscibility with water at 20 °C:150 g/lPartition coefficient: n-octanol/water:Not determined.Viscosity: Dynamic: Kinematic:Not applicable.Solvent content: Organic solvents:0.0 % 0.00 %		
• Vapour pressure:       Not applicable.         • Density at 20 °C:       3.685 g/cm <sup>3</sup> • Bulk density at 20 °C:       1.500 kg/m <sup>3</sup> • Relative density       Not determined.         • Vapour density       Not applicable.         • Vapour density       Not applicable.         • Vaporation rate       Not applicable.         • Solubility in / Miscibility with water at 20 °C:       150 g/l         • Partition coefficient: n-octanol/water:       Not determined.         • Viscosity:       Dynamic:         Dynamic:       Not applicable.         • Solvent content:       O.0 %         • VOC (EC)       0.00 %		
Density at 20 °C:       3.685 g/cm <sup>3</sup> Bulk density at 20 °C:       1.500 kg/m <sup>3</sup> Relative density       Not determined.         Vapour density       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Dynamic:         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %	Upper:	Not determined.
Bulk density at 20 °C:       1.500 kg/m³         Relative density       Not determined.         Vapour density       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Not determined.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %	Vapour pressure:	Not applicable.
Relative density       Not determined.         Vapour density       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Not applicable.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         Organic solvents:       0.0 %	Density at 20 °C:	3.685 g/cm <sup>3</sup>
Vapour density       Not applicable.         Evaporation rate       Not applicable.         Solubility in / Miscibility with water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Not applicable.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %	Bulk density at 20 °C:	1.500 kg/m <sup>3</sup>
Evaporation rate       Not applicable.         Solubility in / Miscibility with       150 g/l         water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Not applicable.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         Organic solvents:       0.00 %	Relative density	Not determined.
Solubility in / Miscibility with water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Dynamic:         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %		
water at 20 °C:       150 g/l         Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Dynamic:         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %	Evaporation rate	Not applicable.
Partition coefficient: n-octanol/water:       Not determined.         Viscosity:       Not applicable.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %	Solubility in / Miscibility with	
.viscosity:       Not applicable.         Dynamic:       Not applicable.         Kinematic:       Not applicable.         Solvent content:       0.0 %         VOC (EC)       0.00 %		150 g/l
Dynamic:Not applicable.Kinematic:Not applicable.Solvent content:0.0 %Organic solvents:0.0 %VOC (EC)0.00 %	Partition coefficient: n-octanol/water:	Not determined.
Dynamic:Not applicable.Kinematic:Not applicable.Solvent content:0.0 %Organic solvents:0.0 %VOC (EC)0.00 %	· Viscosity:	
Kinematic:Not applicable.Solvent content:0.0 %Organic solvents:0.0 %VOC (EC)0.00 %		Not applicable.
Organic solvents:         0.0 %           VOC (EC)         0.00 %	•	
<b>VÕC</b> (EC) 0.00 %	Solvent content:	
<b>VOC</b> (EC) 0.00 %	Organic solvents:	0.0 %
Solids content: 100.0 %		0.00 %
	Solids content.	100.0 %



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• 9.2 Other information

No further relevant information available.

#### **SECTION 10: Stability and reactivity**

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · 10.3 Possibility of hazardous reactions No dangerous reactions known.
- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: No further relevant information available.
- · 10.6 Hazardous decomposition products: No dangerous decomposition products known.

#### **SECTION 11: Toxicological information**

· 11.1 Information on toxicological effects

• Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

#### 7789-18-6 caesium nitrate

Oral LD50 2390 mg/kg (rat)

Dermal LD50 (ÿ)

- Primary irritant effect:
- Skin corrosion/irritation
- Causes skin irritation.
- Serious eye damage/irritation Causes serious eye irritation.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure
- May cause respiratory irritation.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

## **SECTION 12: Ecological information**

- · 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- $\cdot$  Additional ecological information:
- · General notes: Not known to be hazardous to water.
- · 12.5 Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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· 12.6 Other adverse effects No further relevant information available.

## **SECTION 13: Disposal considerations**

· 13.1 Waste treatment methods

• *Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.* 

• Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

14.1 UN-Number ADR, IMDG, IATA	UN1451	
14.2 UN proper shipping name ADR IMDG, IATA	1451 CAESIUM NITRATE CAESIUM NITRATE	
14.3 Transport hazard class(es)		
ADR		
51		
Class	5	
Label	5.1	
51		
Class	5.1 Oxidising substances.	
Label	5.1	
14.4 Packing group ADR, IMDG, IATA	111	
14.5 Environmental hazards:		
Marine pollutant:	No	
14.6 Special precautions for user	Not applicable.	
Danger code (Kemler):	50	
Stowage Category	A	
14.7 Transport in bulk according to Ann Marpol and the IBC Code	ex II of Not applicable.	



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Transport/Additional information:	
ADR	
Limited quantities (LQ)	5 kg
Excepted quantities $(EQ)$	Code: E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
Transport category	3
Tunnel restriction code	E
IMDG	
Limited quantities (LQ)	5 kg
Excepted quantities $(EQ)$	Code: El
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
UN ''Model Regulation'':	UN 1451 CAESIUM NITRATE, 5.1, III

## **SECTION 15: Regulatory information**

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

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I Substance is not listed.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Technical Department.

#### · Contact: Technical Director

· Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road) IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) VOC: Volatile Organic Compounds (USA, EU) LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative Skin Irrit. 2: Skin corrosion/irritation - Category 2 Eye Irrit. 2: Serious eye damage/eye irritation - Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3