Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product Identifier:

Identification as on the label/Trade name: Cesium Metal.
Molecular weight: 132.91
Chemical formula: Cs
Synonyms: None.

Details of the supplier of the Safety Data Sheet:

Neonest AB
Storgatan 70C, Solna
SE-17152
Sweden
+46-76-219-9731

24-hour Emergency Contact:

Swedish Poisons Centre
Phone: 112 - Ask for Poisons Information, 112 – begär Giftinformation.

Other International Contacts:

CHEMTREC 24-hour: +1-703-741-5500 (US + Worldwide)
NHS: 111 (UK)
Charite: +49 30 450 531 000 (Netherlands)
INTCF: +34 917689800 (Spain)
CapTv: +33 1 40 05 48 48 (France)

Section 2: Hazards Identification

Classification of the substances or mixture:

The mixture is classified according to: Regulation EC 1272/2008 [EU-GHS/CLP]

Hazard classes/Hazard categories:	**Hazard statement:**
Water-reactive (Category 1)	H260
Skin Corrosive (Category 1B)	H314

Label elements:

Hazard pictograms:

Signal word: Danger.
Hazard statements:
H260 In contact with water releases flammable gases which may ignite spontaneously.
H314 Causes severe skin burns and eye damage.
Precautionary statements:

P223 Do not allow contact with water.
P231 + P232 Handle and store contents under inert gas. Protect from moisture.
P260 Do not breathe dusts or mists.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P335 + P334 IF ON SKIN: Brush off loose particles from skin and immerse in cool water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P316 Get emergency medical help immediately.
P321 Specific treatment (see supplemental first aid instruction on this label).
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry chemical, clay, sodium carbonate, or approved class D extinguisher to extinguish.
P402 + P404 Store in a dry place. Store in a closed container.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/national regulations.
Other hazards: None known.

Section 3: Composition/Information on Ingredients

Substance/Mixture: Substance.
Ingredients:

Substance name (IUPAC/EC)	**CAS-No.** **EC-No.**	**Molecular weight**	**Concentration % by weight**	**Classification** EC1272/2008
Caesium	7440-46-2 231-155-4	132.91	>99%	Water-react. 1 H260 Skin Corr. 1B H314

For explanation of abbreviations see Section 16.

Section 4: First-Aid Measures

Description of first aid measures:

Eye contact: Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation: Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.
Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately.

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 oesophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
Indication of any immediate medical attention and special treatment needed: Treat symptomatically.

Section 5: Fire-Fighting Measures

Extinguisher media:

Suitable extinguisher media: Dry chemical, clay, sodium carbonate, or approved class D extinguishers.
Special hazards arising from the substance: Water reactive. Produce flammable gases on contact with water.
Advice for fire-fighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Further information: Thermal decomposition can lead to release of irritating gases and vapours.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Ensure adequate ventilation. Use personal protective equipment as required.
Environmental precautions: No data available.

Methods for containment and cleaning up:

Methods for cleaning up: Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up and shovel into suitable containers for disposal".

Section 7: Handling and Storage

Precautions for safe handling:

Advice on safe handling: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Handle product only in closed system or provide appropriate exhaust ventilation. Wash hands thoroughly after handling. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Container should be opened by a technically qualified person.

Conditions for safe storage, including incompatibilities:

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep from any possible contact with water. Store under an inert atmosphere. Keep away from water or moisture.
Incompatible Materials: Acids, water, strong oxidizing agents, alcohols, halogens, oxygen, halogenated compounds, Carbon dioxide (CO_2).

Section 8: Exposure Controls/Personal Protection

Control parameters:

Occupational exposure limits: Contains no substances with occupational exposure limit values.

Exposure controls:

Appropriate engineering controls: Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or EN166.
Hand and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure.
Respiratory protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or EN 149. Use a NIOSH/MSHA or EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties:

Appearance (form): Solid.
Colour: Gold. (Silvery-golgen, Pale gold)
Odour: Odourless.
Odour threshold: No data available.
Molecular Weight: 132.91
pH (concentration): No data available.
Melting point/range (°C): 28.5 °C
Boiling point/range (°C): 705 °C
Freezing point (°C): No data available.
Flash point (°C): No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Ignition temperature (°C): No data available.
Upper/lower flammability/explosive limits: No data available.
Vapour pressure: 0.0075 hPa (145 °C) (1.5X10-6 mm Hg at 25 °C (solid)- Pubchem) (1 hPa at 279 °C - Sigma)
Vapour density: No data available.
Relative density (25 °C): 1.873
Water solubility (g/L) at 20 °C: No data available.
n-Octanol/Water partition coefficient: No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity, dynamic (mPa s): No data available.
Explosive properties: The substance or mixture is not classified as explosive.
Oxidising properties: The substance or mixture is not classified as oxidizing.

Section 10: Stability and Reactivity

Reactivity: Water reactive.
Chemical stability: Sensitive to air and moisture.
Possibility of hazardous reactions: Reacts violently with water, liberating extremely flammable gases.
Conditions to avoid: Keep away from open flames, hot surfaces and sources of ignition. Exposure to moisture or water.

Incompatible materials: Acids, water, strong oxidizing agents, alcohols, halogens, oxygen, halogenated compounds, Carbon dioxide (CO_2).
Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapours.

Section 11: Toxicological Information

Information on toxicological effects:

Acute toxicity: No data available.

Classification according to GHS (1272/2008/EG, CLP)

Skin corrosion/irritation:
Causes severe skin burns and eye damage.
Serious eye damage/eye irritation:
Causes serious eye damage.
Respiratory or skin sensitisation:
Not classified based on available information.
Germ cell mutagenicity:
Not classified based on available information.
Carcinogenicity:
IARC: Not identified as carcinogenic.
NTP: Not identified as carcinogenic.
Reproductive toxicity:
Not classified based on available information.
Specific target organ toxicity – single exposure (STOT):
Not classified based on available information.
Specific target organ toxicity (STOT) – repeated exposure:
Not classified based on available information.
Aspiration toxicity:
Not classified based on available information.

Section 12: Ecological Information

Toxicity: Reacts with water, so no ecotoxicity data for the substance is available.
Persistence and degradability: No data available.
Bioaccumulative potential: No data available.
Mobility in soil: No data available.
Results of PBT& vPvB assessment: No data available.
Other adverse effects: No data available.

Section 13: Disposal Considerations

Waste treatment methods: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Section 14: Transport Information

DOT:

Proper Shipping Name: CAESIUM
Hazard Class: 4.3
Subsidiary Hazard Class: 8
UN Number: 1407
Packing Group: I

IMDG:

Proper Shipping Name: CAESIUM
Hazard Class: 4.3
Subsidiary Hazard Class: 8
UN Number: 1407
Packing Group: I

IATA:

Proper Shipping Name: CAESIUM
Hazard Class: 4.3
Subsidiary Hazard Class: 8
UN Number: 1407
Packing Group: I

Section 15: Regulatory Information

EU regulations:

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.
Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.
Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.
Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
Not listed.
Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations:

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use:

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use
Not regulated.
Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed.
Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
Not regulated.
Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.
Not regulated.

Other EU regulations:

Directive 2012/18/EU on major accident hazards involving dangerous substances
Not listed.
Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Always applicable.
Directive 94/33/EC on the protection of young people at work
Not listed.

Other regulations: The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
National regulations: Follow national regulation for work with chemical agents.
Chemical safety assessment: No Chemical Safety Assessment has been carried out.

Section 16: Other Information

List of abbreviations:
ACGIH American Conference of Governmental Industrial Hygienists
ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road
ALARA As Low As Is Reasonably Achievable
AMU Atomic Mass Unit
ANSI American National Standards Institute
BLS Basic Life Support
CAM Continuous Air Monitor
CAS Chemical Abstracts Service (division of the American Chemical Society)
CEN European Committee for Standardization
CERCLA Comprehensive Environmental Response Compensation and Liability Act
CLP Classification, Labelling and Packaging (European Union)
CPR Controlled Products Regulations (Canada)
CWA Clean Water Act (USA)
DAC Derived Air Concentration (USA)
DOE United States Department of Energy (USA)

DOT United States Department of Transportation (USA)
DSL Domestic Substances List (Canada)
EC50 Half Maximal Effective Concentration
EINECS European Inventory of Existing Commercial Chemical Substances
EHS Environmentally Hazardous Substance
ELINCS European List of Notified Chemical Substances
EMS Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA Environmental Protection Agency (USA)
EPCRA Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986
GHS Globally Harmonized System
HMIS Hazardous Materials Identification System (USA)
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Containers
ICAO International Civil Aviation Organization
IDLH Immediately Dangerous to Life or Health
IMDG International Maritime Code for Dangerous Goods
LC50 Lethal concentration, 50 percent
LD50 Lethal dose, 50 percent
LDLO Lethal Dose Low
LOEC Lowest-Observed-Effective Concentration
MARPOL International Convention for the Prevention of Pollution from Ships
MSHA Mine Safety and Health Administration (USA)
NCRP National Council on Radiation Protection & Measurements (USA)
NDSL Non-Domestic Substances List (Canada)
NFPA National Fire Protection Association (USA)
NIOSH National Institute for Occupational Safety and Health (USA)
NOEC No Observed Effect Concentration
N.O.S. Not Otherwise Specified
NRC Nuclear Regulatory Commission (USA)
NTP National Toxicology Program (USA)
OSHA Occupational Safety and Health Administration (USA)
PBT Persistent Bioaccumulative and Toxic Chemical
PEL Permissible Exposure Limit
PIH Poisonous by Inhalation Hazard
RCRA Resource Conservation and Recovery Act (USA)
RCT Radiation Control Technician
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID Regulations Concerning the International Transport of Dangerous Goods by Rail
RTECS Registry of Toxic Effects of Chemical Substances
SARA Superfund Amendments and Reauthorization Act (USA)
TDG Transportation of Dangerous Goods (Canada)
TIH Toxic by Inhalation Hazard
TLV Threshold Limit Value
TPQ Threshold Planning Quantity
TSCA Toxic Substances Control Act
TWA Time Weighted Average
UN United Nations (Number)

VOC Volatile Organic Compound
vPvB Very Persistent Very Bioaccumulative Chemical
WGK Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS Workplace Hazardous Materials Information System

References:
Not available.
Full text of any H-statements not written out in full under Sections 2 to 15:
H260 In contact with water releases flammable gases which may ignite spontaneously.
H314 Causes severe skin burns and eye damage.
Revision information:
GHS aligned.
Training information:
Follow training instructions when handling this material.
Further Information:
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.