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		Joonta	USA

Product name: Cesium sulfate

(Contd. of page 1) Environmental precautions: Do not allow product to reach sewage system or any water course. Methods and material for containment and cleaning up: Pick up mechanically. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 7 for information on personal protection equipment. See Section 13 for disposal information. Protective Action Criteria for Chemicals PAC-1: Substance is not listed. PAC-3: Substance is not listed. 7 Handling and storage Handling Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Information about protection against explosions and fires: The product is not flammable in cluster on the second secon Conditions for safe storage, including any incompatibilities 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: Store away from water/moisture. Store away from reducing agents. Store away from reducing agents. Store under dry inert gas. This product is hygroscopic. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and water. Specific end use(s) No further relevant information available. 8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Control parameters Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace. Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Maintain an ergonomically appropriate working environment. Breathing equipment: Maintain an ergonomically appropriate working environment. **Breathing equipment:** Use suitable respirator when high concentrations are present. Use suitable respiratory protective device in case of insufficient ventilation. **Recommended filter device for short term use:** Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. **Protection of hands:** Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Material of gloves Nitrile rubber, NBR Penetration time of glove material (in minutes) 480 Glove thickness: 0.11 mm **Eve protection:** Safety glasses with side shields / NIOSH (US) or EN 166(EU) **Body protection:** Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Form: Crystalline or powder Odor: Odorless Odor threshold: Not determined. pH-value: Not applicable. Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto infitmer: 1010 °C (1850 °F) Not determined Not determined Not determined. Not determined Not determined Auto igniting: Not determined. Danger of explosion: Explosion limits: Lower: Upper: Not determined. Not determined Not determined Vapor pressure: Not applicable. (Contd. on page 3)

Product name: Cesium sulfate	
	(Contd. of page
Vapor density Evaporation rate Solubility in / Miscibility with Water at 20 °C (68 °F): Partition coefficient (n-octanol/water): Viscosity: dynamic: kinematic:	4.243 g/cm³ (35.408 lbs/gal) Not determined. Not applicable. Not applicable. 1820 g/l
Possibility of hazardous reactions Rea Conditions to avoid No further relevant Incompatible materials: Oxidizing agents Reducing agents Water/moisture Hazardous decomposition products: Sulfur oxides (SOX) Cesium oxide	be avoided: Decomposition will not occur if used and stored according to specifications. icts with strong oxidizing agents
11 Toxicological information	
Information on toxicological effects Acute toxicity: The Registry of Toxic Eff	ects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for cl	assification:
Oral LD50 3180 mg/kg (mouse)	
2830 mg/kg (rat) Skin irritation or corrosion: May cause	irritation
Eye irritation or corrosion: May cause i Sensitization: No sensitizing effects kno Germ cell mutagenicity: No effects know	rritation wn
Reproductive toxicity: No effects known	
Specific target organ system toxicity -	
Specific target organ system toxicity -	single exposure: No effects known.
Aspiration hazard: No effects known. Subacute to chronic toxicity: The Regi. Additional toxicological information: T	stry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance. o the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
12 Ecological information Toxicity Aquatic toxicity: No further relevant info Persistence and degradability No further Bioaccumulative potential No further relevant Mobility in soil No further relevant inform Additional ecological information: General notes: Avoid transfer into the er Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant	er relevant information available. levant information available. nation available. nvironment.
13 Disposal considerations	
Waste treatment methods Recommendation Consult state, local or Uncleaned packagings: Recommendation: Disposal must be ma	national regulations to ensure proper disposal.
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14 Transport information UN-Number DOT, ADN, IMDG, IATA	Not applicable
UN proper shipping name	
DOŤ, ÁDR, ÁĎŇ, IŇDG, IATA Transport hazard class(es)	Not applicable
DOT, ADR, ADN, IMDG, IATA Class	Not applicable
Packing group DOT, ADR, IMDG, IATA	Not applicable
Environmental hazards:	Not applicable.
Special precautions for user	Not applicable.
	I of MARPOL73/78 and the IBC Code Not applicable.
Transport/Additional information:	
DOT Marina Ballutant (DOT):	No
Marine Pollutant (DOT):	No (Contd. on page
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UN "Model Regulation":

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USA

Not applicable Regulatory information Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements Not applicable Hazard pictograms Not applicable Hazard statements Not applicable Hazard statements Not applicable Hazard statements of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory. All components of this product are listed on the Canadian Domestic Substances List (DSL). SARA Section 313 (specific toxic chemical listings) Substance is not listed. California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is not listed. Prop 65 - Developmental toxicity, substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed. 15 Regulatory information market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out. 16 Other information Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. Department issuing SDS: Global Marketing Department Date of preparation/Revision: Print date, revision date and version number are in the header of each page. 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 DOT: US Department of Transport Association IATA: International Air Transport Association EVECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Information System (Canada) LC50: Lethal concentration, 50 percent PBT: Persistent, Bioaccumulative ATC SUBSTANCE of Version Agency for Research on Cancer EVA: Output Developed Part P Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) IMP: National ToxicoSyropy regression (USA)