



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 497

Review Date: August 20, 2018

1 Identification of substance and company

Product name: **Cesium carbonate**

Product code: 17233, 17718

Relevant use and restrictions on use: Research and product development

Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com

Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:

Pictogram(s):



Signal word(s):

Danger

Hazard statements:

H318 - Causes serious eye damage
H335 - May cause respiratory irritation.

Precautionary statements:

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective eye protection / face protection.

P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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/ doctor
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

GHS Classification:

Serious eye damage - 1
Specific target organ toxicity - single exposure - 3, respiratory system

Hazards not otherwise classified:

None

HMIS ratings (scale 0-4):

Health hazard: 2
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Cesium Carbonate
CAS number: 534-17-8
EC number: 208-591-9
Formula: Cs₂CO₃
Synonyms: Dicesium carbonate

4 First aid measures

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| After inhalation: | Move victim into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| After skin contact: | Wash off with soap and plenty of water. Consult a physician. |
| After eye contact: | Rinse thoroughly with plenty of water for at least 15 minutes. Consult a physician. |
| After ingestion: | Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. |
| Information for doctor: | Show this safety data sheet to the doctor in attendance |
| Symptoms/effects; acute and delayed: | Exposure to large amounts can cause muscle cramps or spasms |
| Immediate medical attention and special treatment needed: | No data available |

5 Fire-fighting measures

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| Suitable and unsuitable extinguishing agents: | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide |
| Special hazards caused by the material, its products of combustion or resulting gases: | Oxides of cesium, carbon dioxide and monoxide |
| Special fire fighting procedures: | Wear self-contained breathing apparatus. Always wear full fire fighting equipment / clothing in fire situations. |
| Unusual fire and explosion hazard: | No data available |

6 Accidental release measures

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| Person-related safety precautions: | Use personal protective equipment. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe area. |
| Measures for environmental protection: | Do not let product enter drains. |
| Measures for cleaning/collecting: | Sweep up and shovel without creating dust. Keep in suitable, closed containers for disposal. |
| Additional information: | See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information |

7 Handling and storage

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| Information for safe handling: | Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Ensure adequate ventilation. |
| Information about protection against explosions and fires: | No data available |
| Storage requirements to be met by storerooms and containers: | Material is hygroscopic. Store under dry, inert gas. Keep container tightly closed in a dry and well ventilated area. Hygroscopic - keep in a dry place. |
| Incompatibility (avoid contact with): | Strong acids |
| Further information about storage conditions: | No data available |

8 Exposure controls/personal protection

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| Ventilation requirements: | Local exhaust. |
| Components with exposure limits that require monitoring: | Contains no substances with occupational exposure limit values |
| General protective and hygienic measures: | The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin |
| Personal protective equipment: | |
| Respiratory protection: (Use only NIOSH or CEN approved Equipment) | Filter-dust, fume, mist |
| Hand protection: | Handle with gloves: Neoprene / Natural rubber / Impervious Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with product. |
| Eye protection: | Safety goggles |
| Skin protection: | Protective work clothing sufficient to prevent contact. |
| Additional protective equipment: | Emergency eyewash and safety shower. |
| Precautionary labeling: | Do not get in eyes, on skin or on clothing Do not breath dust, vapor, mist or gas Store in tightly closed containers. Store in a clean, dry area. |

9 Physical and chemical properties

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| Physical state: | Powder |
| Color: | White |
| Odor: | Odorless |
| Odor threshold: | No data available |
| Molecular Weight (Calculated): | 325.82 |
| pH | 10.0 - 13 @ 50 g/L @ 20 C |
| Melting point/freezing point/range: | 610 C |
| Boiling point/range: | No data available |
| Sublimation temperature/start: | No data available |
| Decomposition temperature: | No data available |
| Flammability (solid, gas): | Not flammable |
| Flash point: | No data available |
| Autoignition temperature: | No data available |
| Danger of explosion: | No data available |
| Flammable limits: | |
| Lower: | No data available |
| Upper: | No data available |
| Evaporation Rate: | No data available |
| Vapor pressure (mm Hg): | No data available |
| Vapor density: | No data available |
| Specific gravity: | 4.072 @ 20 C |
| Bulk density: | 1,300 kg / m ³ |
| Solubility in/Miscibility with water: | 2605 g / L @ 15 C |
| Partition coefficient n-octanol/water: | No data available |
| Viscosity: | No data available |
| Other information: | No data available |

10 Stability and reactivity

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| Reactivity: | No data available |
| Chemical stability: | Stable under recommended storage conditions |
| Possibility of hazardous reactions: | No data available |
| Conditions to be avoided: | Exposure to moisture See section 7 for information on proper handling and storage |
| Materials to be avoided: | Strong acids strong oxidizing agents |
| Dangerous reactions: | No data available |
| Hazardous decomposition products: (thermal and other) | Oxides of cesium, carbon dioxide and monoxide |

11 Toxicological information

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| LD/LC50 values that are relevant for classification: | oral-rat LD ₅₀ : 2333 mg / kg oral-mouse LD ₅₀ : 2170 mg / kg |
| Irritation or corrosion of skin: | No data available |
| Irritation or corrosion of eyes: | No data available |
| Primary irritant or corrosive effect: on the skin: | Mild |
| on the eye: | Severe |
| Sensitization: | No data available |
| Potential health effects: | |
| Inhalation: | May cause irritation of the lungs and upper respiratory tract |
| Ingestion: | No data available |
| Skin: | No data available |
| Eyes: | No data available |
| Signs and symptoms of exposure: | Primary routes of exposure include inhalation, ingestion, and skin absorption. Muscle and red blood cell accumulation are possible with neuromuscular effects. Mutagenic data. May cause strong irritation of the skin, eyes or mucous membranes. |
| Carcinogenicity: | IARC: No component of this product is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product is identified as a carcinogen or potential carcinogen by OSHA. |
| Additional information: | To the best of our knowledge the acute and chronic toxicity of this substance is not fully known |

12 Ecotoxicological information

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| Toxicity: | |
| Toxicity to fish: | No data available |
| Toxicity to daphnia and other aquatic invertebrates: | No data available |
| Toxicity to algae: | No data available |
| Persistence and degradability: | |
| Biodegradability: | No data available |
| Bioaccumulative potential: | |
| Bioaccumulation: | No data available |
| Mobility in soil: | No data available |
| Other adverse effects: | No data available |

13 Disposal considerations

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| Recommendation: | Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations |
| Unclean packagings recommendation: | Disposal must be made according to official regulations |

14 Transport information

Land transport DOT

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| Proper shipping name: | Chemicals Non-Hazardous |
| Technical name: | Cesium carbonate |

Air transport ICAO-TI and IATA-DGR:

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| Proper shipping name: | Chemicals Non-Hazardous |
| Technical name: | Cesium carbonate |

UPS Ground / FedEx Ground

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| Proper shipping name: | Chemicals Non-Hazardous |
| Technical name: | Cesium carbonate |

UPS Air

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|------------------------------|-------------------------|
| Proper shipping name: | Chemicals Non-Hazardous |
| Technical name: | Cesium carbonate |

15 Regulatory information

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| SARA Section 302 Extremely Hazardous components and corresponding TPQs: | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302 |
| SARA Section 311 / 312 hazards: | Acute Health Hazard |
| SARA Section 313 components: | This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313 |
| California Proposition 65 components: | This product does not contain any chemicals known to the State of California to cause birth defects or any other reproductive harm. |
| TSCA: | Product is listed on the TSCA Inventory |

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.