

# Safety Data Sheet



## 1: Identification

### 1.1: Product Identifier

Product Name: CsI

Product Number(s): 1CSI-0002F

CAS Number: 7789-17-5

SDS Document Number: 000058

### 1.2: Recommended Uses and Restrictions

Recommended Uses

Manufacture of substances

Restrictions

Not for food or drug use.

### 1.3: Supplier Contact Information

APL Engineered Materials, Inc.

2401 N. Willow Rd.

Urbana, IL 61802

Phone: 217-367-1340

Fax: 217-367-9084

### 1.4: Emergency Phone Number

International: +01-813-248-0585

United States: 800-255-3924

## 2: Hazards Identification

### 2.1: Classifications

Acute Toxicity, Oral - Category 4

Eye Damage/Irritation - Category 2A

Sensitization - Skin - Category 1

Skin Corrosion/Irritation - Category 2

Specific Target Organ Toxicity - Repeated Exposure - Category 3

### 2.2: GHS Label Elements

Pictograms



Signal Word: Warning

Hazard Statements

H302: Harmful if swallowed.

- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.

Precautionary Statements

- P261: Avoid breathing dust.
- P264: Wash hands thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P280: Wear protective gloves, clothing, and eyewear.
- P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321: Specific treatment. Call a physician or poison control center.
- P330: Rinse mouth.
- P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
- P337 + P313: If eye irritation persists: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P501: Dispose of contents/container to licensed disposal facility.

2.3: Hazards Not Otherwise Classified or Not Covered by GHS

None.

2.4: Amount(s) of substances with unknown toxicity

None

**3: Composition/Information on Ingredients**

3.1: .Ingredient	.Weight%	.Formula	.CAS Number	.Mol Wt	.EC Number
CsI	100	CsI	7789-17-5	259.81	232-145-2

3.2: Other Hazardous components

none

3.3: Trade Secret Disclaimer

none

3.4: Synonyms

Cesium Iodide  
caesium iodide

**4: First Aid Measures**

4.1: First Aid

General

- Remove person from area of exposure and remove any contaminated clothing
- Consult with physician and provide this Safety Data Sheet

In contact with eyes

- Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
- Seek medical attention if irritation develops or persists

In contact with skin

- Wash thoroughly with soap and plenty of water. Remove all contaminated clothing for proper

laundering. Seek medical attention if irritation develops or persists.

If swallowed

If conscious and alert, rinse mouth and drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical aid.

If inhaled

Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

#### 4.2: Most important symptoms and effects; acute and delayed

Stomach irregularities based on human evidence.

Coughing

Shortness of breath

Vomiting.

Causes skin irritation

Harmful if swallowed.

Causes serious eye irritation.

May cause an allergic skin reaction.

Headache

May cause respiratory irritation.

Nausea

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

If swallowed: Immediately call a POISON CENTER or doctor/ physician.

### **5: Fire Fighting Measures**

#### 5.1: Fire extinguishing media

carbon dioxide

dry chemical

water or alcohol-resistant foam

#### 5.2: Specific hazards arising from the substance or mixture

hydroiodic acid and hydroiodic acid fumes

cesium oxide

#### 5.3: Special protective equipment and precautions for firefighters.

Wear self contained breathing apparatus for fire fighting if necessary

### **6: Accidental Release Measures**

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

Evacuate personnel to safe areas.

Use personal protective equipment.

Avoid dust formation.

Ensure adequate ventilation.

For personal protection see section 8.

Avoid breathing dust.

#### 6.2: Methods and materials for containment and cleaning up.

Collect with an intrinsically safe vacuum cleaner or by wet brushing.

Keep in suitable, closed containers for disposal.

Sweep up and shovel.

#### 6.3: Environmental precautions

Do not let product enter drains.

#### 6.4: Disposal

Dispose of in accordance with local regulations.

See section 13.

## 7: Handling and Storage

#### 7.1: Precautions for safe handling

See precautionary statements in section 2.2.

Avoid formation of dust and aerosols.

Avoid contact with skin and eyes.

Provide appropriate exhaust ventilation at places where dust is formed.

#### 7.2: Conditions for safe storage

Keep container tightly closed.

Store away from moisture.

Store under inert gas.

Store in a dry and well-ventilated place.

#### 7.3: Incompatibilities

strong oxidizing agents

## 8: Exposure Controls/Personal Protection

#### 8.1: Control parameters

OSHA permissible exposure limit (PEL)

not listed

ACGIH threshold limit value (TLV)

not listed

NIOSH recommended exposure limit (REL)

not listed

#### 8.2: Engineering controls

Use adequate ventilation to keep airborne concentrations low

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower

#### 8.3: Personal protective equipment

Eyes

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin

Wear appropriate, chemical-resistant protective gloves to prevent skin exposure.

#### Clothing

Wear appropriate protective clothing to prevent skin exposure

#### Respirator

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149.  
Always use a NIOSH or European Standard EN 149 approved respirator when necessary

## 9: Physical and Chemical Properties

### 9.a: Appearance

State: Solid

Form: powder or spheres

Color: White

9.b: Odor: no data available

9.c: Odor threshold: no data available

9.d: pH: no data available

9.e: Melting point / freezing point: 626 °C (1,159 °F)

9.f: Initial boiling point and range: 1,280 °C (2,336 °F) at 1,013 hPa (760 mmHg)

9.g: Flashpoint: no data available

9.h: Evaporation rate: no data available

9.i: Flammability (solid, gas): no data available

9.j: Upper/lower flammability or explosive limits: no data available

9.k: Vapor pressure: no data available

9.l: Vapor density: no data available

9.m: Relative density: 4.51 g/cm<sup>3</sup> at 25 °C (77 °F)

9.n: Water Solubility: soluble in water

9.o: Partition coefficient: n-octanol/water: no data available

9.p: Auto-ignition temperature: no data available

9.q: Decomposition temperature: no data available

9.r: Viscosity: no data available

## 10: Stability and Reactivity

### 10.1: Reactivity

no data available

### 10.2: Chemical stability

Stable under recommended storage conditions.

### 10.3: Possibility of hazardous reactions

no data available

### 10.4: Conditions to avoid

In the event of fire: see section 5

exposure to water

## 10.5: Incompatible materials

See section 7.3.

## 10.6: Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5.2

# 11: Toxicological Information

## 11.1: Toxicity data

### Acute toxicity - Oral

LD50 Oral - rat - 2,386 mg/kg.

### Acute toxicity - Dermal

LD50 dermal - rat - >2000 mg/kg.

### Acute toxicity - Inhalation

No data available.

### Skin corrosion/irritation

Causes skin irritation.

### Eye damage/irritation

Causes severe eye irritation.

### Respiratory irritation

May cause respiratory irritation.

### Germ cell mutagenicity

Tests showed no mutagenic effects.

### Reproductive toxicity

no data available

### Specific organ toxicity - single exposure

May cause respiratory irritation.

### Specific organ toxicity - repeated exposure

No data available.

### Aspiration hazard

No data available.

### Additional information

RTECS: FL0350000

### ACGIH carcinogenicity

The ACGIH has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

### IARC carcinogenicity

The IARC has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

### NTP carcinogenicity

The NTP has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

### OSHA carcinogenicity

OSHA has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

#### 11.2: Routes of exposure

eyes  
skin  
oral

See section 2.2

#### 11.3: Symptoms of exposure

See section 4.2

#### 11.4: Delayed and immediate effects of exposure

Prolonged or repeated exposure may cause allergic skin and /or respiratory reactions in certain sensitive individuals.

Cesium compounds may cause hyper irritability including spasms. Chronic ingestion of cesium has been fatal to laboratory animals.

To the best of our knowledge the toxicological properties have not been thoroughly investigated.

## 12: Ecological Information

#### 12.1: Ecotoxicity

Toxicity to fish

Zebrafish (*Danio rerio*) - 96h NOEC value:  $\geq 100$  mg test item/L, LOEC value:  $> 100$  mg test item/L 96h LC50 value:  $> 100$  mg test item/L. 35 day NOEC for cesium iodide was 66.5 mg/L and the LOEC was greater than 66.5 mg/L.

Toxicity to daphnia and other aquatic invertebrates

*Daphnia magna* - 48 hr- static EC50 = 0.51 mg/L. NOEC = 0.175 mg/L. 21 day NOEC = 24.5 mg/L, 21 day EC50  $> 24.5$  mg/L and LOEC = 46.4 mg/L.

Toxicity to algae/bacteria

72-hr - *Pseudokirchneriella subcapitata* - EC50  $> 100$  mg/L (635.75 mg/L); NOEC = 6.25 mg/L; LOEC = 12.5 mg/L.

#### 12.2: Persistence and degradability

no data available

#### 12.3: Bioaccumulative potential

does not bioaccumulate

#### 12.4: Mobility in soil

no data available

#### 12.5: Other effects

no data available

## 13: Disposal Considerations

#### 13.1: Waste treatment methods

No data available

#### 13.2: Safe handling

See section 7.1 .

### 13.3: Product disposal

Contact a licensed professional waste disposal service to dispose of this material.

### 13.4: Packaging disposal

Dispose of as unused product.

## 14: Transport Information

### 14.1: DOT(US)

UN Number: Not a dangerous good

Proper Shipping Name:

Packing Group:

Shipping Class(es):

Marine Pollutant: No

### 14.2: IMDG

UN Number: Not a dangerous good

Proper Shipping Name:

Packing Group:

Shipping Class(es):

Marine Pollutant: No

### 14.3: IATA

UN Number: Not a dangerous good

Proper Shipping Name:

Packing Group:

Shipping Class(es):

### 14.4: Special Shipping Precautions

None

## 15: Regulatory Information

### 15.1: TSCA inventory

This material is listed on the TSCA inventory.

### 15.2: SARA 302 components

This material is not subject to the reporting requirements of SARA Title III, Section 302.

### 15.3: SARA 313 components

This material is not subject to the reporting requirements of SARA Title III, Section 313.

### 15.4: SARA 313/312 hazards

Chronic health hazard.

### 15.5: Other information

California Prop. 65 Components - This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components - This product does not contain materials listed on the Massachusetts Right to Know list

Pennsylvania Right To Know Components -This product does not contain materials listed on the



Pennsylvania Right to Know list

New Jersey Right To Know Components -This product does not contain materials listed on the New Jersey Right to Know list

## 16: Additional Information

### 16.1: NFPA

Health: 2

Fire: 0

Reactivity: 0

Special:

### 16.2: HMIS

Health: 2

Chronic: \*

Flammability: 0

Physical Hazard: 0

### 16.3: Disclaimers

The information herein is believed to be accurate and reliable as of the date compiled. However, APL Engineered Materials, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.

For industrial use only. Not for drug, household or other uses

### 16.4: References

Information contained on this SDS sheet was obtained from some or all of the following sources: American Conference of Governmental Industrial Hygienists (ACGIH), TLVs and BEIs; National Institute for Occupational Safety and Health (NIOSH), Pocket Guide to Chemical Hazards; European Chemicals Agency, <http://echa.europa.eu/>; The National Institute of Health, U.S National Library of Medicine, TOXNET, Toxicology Data Network; and the Registry of Toxic Effects of Chemical Substances (RTECS) database.

### 16.5: Version

Preparation Date: 5/22/2015

Revision Date: 5/22/2015

Version Number: GHS 1.0