

## SAFETY DATA SHEET

Creation Date 28-Feb-2014

Revision Date 17-Jan-2018

Revision Number 3

### 1. Identification

|                             |  |
|-----------------------------|--|
| <b>Product Name</b>         | <b>Iodine (Certified ACS)</b>  |
| <b>Cat No. :</b>            | <b>I37-100; I37-500; XXI37-12KG; NC1348154; XXI37-100GM; NC1385527; XXI3710KG; NC1523263</b> |
| <b>CAS-No</b>               | 7553-56-2  |
| <b>Synonyms</b>             | No information available   |
| <b>Recommended Use</b>      | Laboratory chemicals.  |
| <b>Uses advised against</b> | Food, drug, pesticide or biocidal product use  |

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

##### Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|   |            |
|---|------------|
| Corrosive to metals   | Category 1 |
| Acute oral toxicity   | Category 4 |
| Acute dermal toxicity   | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists                       | Category 4 |
| Skin Corrosion/Irritation   | Category 2 |
| Serious Eye Damage/Eye Irritation                                 | Category 2 |
| Specific target organ toxicity (single exposure)                  | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). |            |
| Specific target organ toxicity - (repeated exposure)              | Category 1 |
| Target Organs - Kidney, Liver, Blood, Thyroid.                    |            |

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

May be corrosive to metals  
 Harmful if swallowed  
 Harmful in contact with skin  
 Harmful if inhaled  
 Causes skin irritation  
 Causes serious eye irritation  
 May cause respiratory irritation  
 May cause drowsiness or dizziness  
 Causes damage to organs through prolonged or repeated exposure



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray

#### Response

Get medical attention/advice if you feel unwell

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

#### Skin

IF ON SKIN: Wash with plenty of soap and water  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

#### Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Very toxic to aquatic life  
 Lachrymator (substance which increases the flow of tears)

### 3. Composition/Information on Ingredients

| Component | CAS-No    | Weight % |
|-----------|-----------|----------|
| Iodine    | 7553-56-2 | > 99     |

### 4. First-aid measures

|  |   |
|--|---|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.   |
| <b>Inhalation</b>                          | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>Ingestion</b>                           | Do not induce vomiting. Call a physician or Poison Control Center immediately.  |
| <b>Most important symptoms and effects</b> | No information available.   |
| <b>Notes to Physician</b>                  | Treat symptomatically   |

## 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | Not applicable  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | No information available  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

### Specific Hazards Arising from the Chemical

Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.

### Hazardous Combustion Products

Hydrogen iodide

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 3      | 0            | 0           | N/A              |

## 6. Accidental release measures

|   |   |
|---|---|
| <b>Personal Precautions</b>                 | Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. |
| <b>Environmental Precautions</b>            | Should not be released into the environment. See Section 12 for additional ecological information.                                |
| <b>Methods for Containment and Clean Up</b> | Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.                              |

## 7. Handling and storage

|                 |  |
|-----------------|--|
| <b>Handling</b> | Use only under a chemical fume hood. Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Do not breathe dust. Do not ingest. |
|-----------------|--|

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component | ACGIH TLV                      | OSHA PEL   | NIOSH IDLH  | Mexico OEL (TWA)                                 |
|-----------|--------------------------------|--|---|--|
| Iodine    | TWA: 0.01 ppm<br>STEL: 0.1 ppm | Ceiling: 0.1 ppm<br>Ceiling: 1 mg/m <sup>3</sup><br>(Vacated) Ceiling: 0.1 ppm<br>(Vacated) Ceiling: 1 mg/m <sup>3</sup> | IDLH: 2 ppm<br>Ceiling: 0.1 ppm<br>Ceiling: 1 mg/m <sup>3</sup> | Ceiling: 0.1 ppm<br>Ceiling: 1 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

### 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 European Standard EN166.

**Skin 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 European Standard EN 149. Use a NIOSH/MSHA or European Standard 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.

## 9. Physical and chemical properties

|   |                          |
|---|--------------------------|
| <b>Physical State</b>                         | Solid                    |
| <b>Appearance</b>                             | Black                    |
| <b>Odor</b>                                   | Strong                   |
| <b>Odor Threshold</b>                         | No information available |
| <b>pH</b>                                     | No information available |
| <b>Melting Point/Range</b>                    | 113 °C / 235.4 °F        |
| <b>Boiling Point/Range</b>                    | 184 °C / 363.2 °F        |
| <b>Flash Point</b>                            | Not applicable           |
| <b>Evaporation Rate</b>                       | No information available |
| <b>Flammability (solid,gas)</b>               | No information available |
| <b>Flammability or explosive limits</b>       |                          |
| Upper   | No data available        |
| Lower   | No data available        |
| <b>Vapor Pressure</b>                         | 0.3 mmHg @ 20 °C         |
| <b>Vapor Density</b>                          | 8.8 (Air = 1.0)          |
| <b>Specific Gravity</b>                       | 4.93                     |
| <b>Solubility</b>                             | Insoluble in water       |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No information available |
| <b>Decomposition Temperature</b>              | No information available |
| <b>Viscosity</b>                              | No information available |

Molecular Formula I2  
Molecular Weight 253.81

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Avoid dust formation. Incompatible products. Excess heat.

**Incompatible Materials** Strong oxidizing agents, Powdered metals, Ammonia

**Hazardous Decomposition Products** Hydrogen iodide

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component | LD50 Oral         | LD50 Dermal           | LC50 Inhalation       |
|-----------|-------------------|-----------------------|-----------------------|
| Iodine    | 315 mg/kg ( Rat ) | 1425 mg/kg ( Rabbit ) | 4.588 mg/L 4h ( Rat ) |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to eyes, respiratory system and skin

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No    | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------|-----------|------------|------------|------------|------------|------------|
| Iodine    | 7553-56-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system Central nervous system (CNS)

**STOT - repeated exposure** Kidney Liver Blood Thyroid

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** See actual entry in RTECS for complete information.

## 12. Ecological information

**Ecotoxicity**

Very toxic to aquatic organisms. This product contains the following substance(s) which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish                              | Microtox | Water Flea           |
|-----------|------------------|--|----------|----------------------|
| Iodine    | -                | Oncorhynchus mykiss: LC50<br>= 1,7 mg/l/96 h | -        | EC50 = 0,2 mg/l/48 h |

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Is not likely mobile in the environment due its low water solubility.

| Component | log Pow |
|-----------|---------|
| Iodine    | 2.49    |

### 13. Disposal considerations

**Waste Disposal 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.

### 14. Transport information

**DOT**

UN-No UN3495  
 Proper Shipping Name IODINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**TDG**

UN-No UN3495  
 Proper Shipping Name IODINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IATA**

UN-No UN3495  
 Proper Shipping Name Iodine  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IMDG/IMO**

UN-No UN3495  
 Proper Shipping Name Iodine  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

### 15. Regulatory information

**International Inventories**

| Component | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-----------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Iodine    | X    | X   | -    | 231-442-4 | -      |     | X     | -    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

#### U.S. Federal Regulations

|   |  |
|---|--|
| <b>TSCA 12(b)</b>   | Not applicable   |
| <b>SARA 313</b>   | Not applicable   |
| <b>SARA 311/312 Hazard Categories</b>                     | See section 2 for more information                         |
| <b>CWA (Clean Water Act)</b>                              | Not applicable   |
| <b>Clean Air Act</b>                                      | Not applicable   |
| <b>OSHA Occupational Safety and Health Administration</b> | Not applicable   |
| <b>CERCLA</b>   | Not applicable   |
| <b>California Proposition 65</b>                          | This product does not contain any Proposition 65 chemicals |

#### U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
| Iodine    | X             | X          | X            | -        | X            |

#### U.S. Department of Transportation

|                             |   |
|-----------------------------|---|
| Reportable Quantity (RQ):   | N |
| DOT Marine Pollutant        | N |
| DOT Severe Marine Pollutant | N |

#### U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

#### Other International Regulations

|                       |                          |
|-----------------------|--------------------------|
| <b>Mexico - Grade</b> | No information available |
|-----------------------|--------------------------|

## 16. Other information

|                         |   |
|-------------------------|---|
| <b>Prepared By</b>      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com  |
| <b>Creation Date</b>    | 28-Feb-2014   |
| <b>Revision Date</b>    | 17-Jan-2018   |
| <b>Print Date</b>       | 17-Jan-2018   |
| <b>Revision Summary</b> | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

#### **Disclaimer**

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

**End of SDS**