SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name Copper iodate

Stock number: 89459

CAS Number: 13454-89-2

1.2 Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar

Avocado Research Chemicals, Ltd.

Shore Road

Port of Heysham Industrial Park

Heysham Lancashire LA3 2XY

United Kingdom

Office Tel: +44 (0) 1524 850506

Office Fax: +44 (0) 1524 850608

Email: uktech@alfa.com

www.alfa.com

Informing department: Product safety department.

1.4 Emergency telephone number:

Call Carechem 24 at +44 (0) 1865 407333 (English only); +44 (0) 1235 239670 (Multi-language)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.

GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Other hazards that do not result in classification No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS03 GHS07

Signal word Danger

Hazard statements

H272 May intensify fire; oxidiser.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Keep/Store away from clothing/combustible materials.

P365+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS# Designation:

13454-89-2 Copper iodate

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

For safety reasons unsuitable extinguishing agents Halocarbon extinguisher

5.2 Special hazards arising from the substance or mixture

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Hydrogen iodide (HI)

Metal oxide

(Contd. on page 2)
5.3 Advice for firefighters
Protective equipment:
Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Prevention of secondary hazards:
Acts as an oxidizing agent on organic materials such as wood, paper and fats
Keep away from combustible material.
6.3 Methods and material for containment and cleaning up: Ensure adequate ventilation.
Prevention of secondary hazards:
See Section 7 for information on safe handling
See section 6 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage
7.1 Precautions for safe handling
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:
Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility:
Store away from flammable substances.
Avoid contact with combustible material.
Do not store with organic materials.
Store away from metal powders.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
7.3 Specific end use(s)
No further relevant information available.

SECTION 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.
8.1 Control parameters
Components with critical values that require monitoring at the workplace:
Copper fume, dusts and mists (as Cu)
mg/m³
ACGIH TLV 1 (dust, mist); 0.2 (fume)
Austria MAK 0.1; 0.1 (fume)
Belgium TWA 0.2 (fume); 1 (dust)
Germany MAK 0.1 (fume); 1 (dust)
Hungary TWA 0.2; 0.4-STEIL (dust)
Korea TLV 1 (dust, mist); 0.2 (fume)
Netherlands MAC-TGG 1 (dust)
Norway TWA 0.05; 0.1 (fume)
Poland TWA 0.1 (fume); 0.3-STEIL (fume)
Russia 1-STEIL (dust)
Sweden NGV 0.2 (dust); 1 (dust)
Switzerland MAK-W 0.1; 0.2-KZG-W (fume)
United Kingdom TWA 0.2 (fume)
1; 1-KZG-W
USA PEL TWA 0.1 (fume); 1 (dust and mists)
Additional information: No data
8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Immediately remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Use breathing protection with high concentrations.
Protection of hands:
Check protective gloves prior to each use for their proper condition.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Material of gloves
Impervious gloves
Eye protection:
Safety glasses
Face protection
Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Powder
Colour: Green
Smell: Not determined
Odour threshold: Not determined.
**Trade name:** Copper iodate

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**pH-value:** Not applicable.

**Change in condition**
- Melting point/Melting range: Not determined
- Boiling point/Boiling range: Not determined
- Sublimation temperature/start: Not determined

**Flash point:** Not applicable

**Inflammability (solid, gaseous):** Contact with combustible material may cause fire.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Self-inflammability:** Not determined

**Danger of explosion:** Not determined

**Critical values for explosion:**
- Lower: Not determined
- Upper: Not determined

**Steam pressure:** Not applicable

**Density at 20 °C:** 5.241 g/cm³

**Relative density:** Not determined

**Vapour density:** Not applicable

**Evaporation rate:** Not applicable

**Solubility in / Miscibility with Water at 15 °C:** 1.36 g/l

**Partition coefficient (n-octanol/water):** Not determined

**Viscosity:**
- Dynamic: Not applicable
- Kinematic: Not applicable

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**SECTION 10: Stability and reactivity**

10.1 Reactivity May intensify fire; oxidiser.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- Reacts with reducing agents
- Reacts with flammable substances

10.4 Conditions to avoid No further relevant information available.

10.5 Incompatible materials:
- Reducing agents
- Sulfides
- Flammable substances
- Organic materials
- Metal powders

10.6 Hazardous decomposition products:
- Hydrogen iodide (HI)
- Metal oxide

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**SECTION 11: Toxicological information**

11.1 Information on toxicological effects
- Acute toxicity: No effects known.
- LD/LC50 values that are relevant for classification: No data
- Skin irritation or corrosion: Causes skin irritation.
- Eye irritation or corrosion: Causes serious eye irritation.
- Germ cell mutagenicity: No effects known.
- Reproductive toxicity: No effects known.

11.2 Target organ system toxicity - single exposure:
- May cause respiratory irritation.

11.3 Target organ system toxicity - repeated exposure:
- No effects known.

11.4 Aspiration hazard: No effects known.

11.5 Subacute to chronic toxicity:
- No effects known.

11.6 Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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**SECTION 12: Ecological information**

12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.

**Additional ecological information:**
- Do not allow material to be released to the environment without proper governmental permits.
- Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

12.6 Other adverse effects: No further relevant information available.

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**SECTION 13: Disposal considerations**

13.1 Waste treatment methods
- Recommendation: Hand over to disposers of hazardous waste.
- Must be specially treated under adherence to official regulations.
- Consult state, local or national regulations for proper disposal.
- Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

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**SECTION 14: Transport information**

**UN-Number:** UN1479
### 14.2 UN proper shipping name
ADR: 1479 OXIDIZING SOLID, N.O.S. (Copper iodate)
IMDG, IATA: OXIDIZING SOLID, N.O.S. (Copper iodate)

### 14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG, IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>5.1 (O2) Oxidising substances.</td>
</tr>
<tr>
<td>Label</td>
<td>5.1</td>
</tr>
</tbody>
</table>

### 14.4 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

### 14.5 Environmental hazards:
Not applicable.

### 14.6 Special precautions for user
**Warning:** Oxidising substances.

### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Australian Inventory of Chemical Substances** Substance is not listed.

**Standard for the Uniform Scheduling of Drugs and Poisons** Substance is not listed.

**Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

**Other regulations, limitations and prohibitive regulations**
- **ELINCS (European List of Notified Chemical Substances)** Substance is not listed.
- **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.** Substance is not listed.
- **Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

### 15.2 Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

### 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
- **IATA**: International Air Transport Association
- **GHS**: Globally Harmonized System of Classification and Labelling of Chemicals
- **CAS**: Chemical Abstracts Service (division of the American Chemical Society)
- **LC50**: Lethal concentration, 50 percent
- **LD50**: Lethal dose, 50 percent
- **vPvB**: very Persistent and very Bioaccumulative
- **ACGIH**: American Conference of Governmental Industrial Hygienists (USA)
- **OSHA**: Occupational Safety and Health Administration (USA)
- **NTP**: National Toxicology Program (USA)
- **IARC**: International Agency for Research on Cancer
- **EPA**: Environmental Protection Agency (USA)