

**Safety Data Sheet**  
per OSHA HazCom 2012**1 Identification****Product identifier****Product name:** Hexaamminenickel(II) iodide**Stock number:** 44481**CAS Number:**

13859-68-2

**Relevant identified uses of the substance or mixture and uses advised against.****Identified use:** SU24 Scientific research and development**Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Alfa Aesar

Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

**Information Department:** Health, Safety and Environmental Department**Emergency telephone number:**

Call Carechem 24 at +44 (0) 1865 407333

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

**2 Hazard(s) identification****Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)**

GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 1A H350 May cause cancer.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

**Hazards not otherwise classified** No information known.**Label elements****GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)**Hazard pictograms**

GHS08

**Signal word** Danger**Hazard statements**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

**Precautionary statements**

P284 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

P405 Store locked up.

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

**WHMIS classification**

D2A - Very toxic material causing other toxic effects

**Classification system****HMIS ratings (scale 0-4)****(Hazardous Materials Identification System)****HEALTH** 2 Health (acute effects) = 2**FIRE** 0 Flammability = 0**REACTIVITY** 1 Physical Hazard = 1**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**3 Composition/information on ingredients****Chemical characterization: Substances****CAS# Description:**

13859-68-2 Hexaamminenickel(II) iodide

**4 First-aid measures****Description of first aid measures****After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**Product name: Hexaamminenickel(II) iodide**

(Contd. of page 1)

**After skin contact**

Immediately 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 a doctor.

**After swallowing** Seek medical treatment.

**Information for doctor**

**Most important symptoms and effects, both acute and delayed** No further relevant information available.

**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

**Extinguishing media**

**Suitable extinguishing agents** Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

**Special hazards arising from the substance or mixture**

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

Nitrogen oxides (NOx)

Hydrogen iodide (HI)

Toxic metal oxide fume

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:** Do not allow material to be released to the environment without proper governmental permits.

**Methods and material for containment and cleaning up:** Dispose of contaminated material as waste according to section 13.

**Prevention of secondary hazards:** No special measures required.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Prevent formation of dust.

**Information about protection against explosions and fires:** The product is not flammable

**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 oxidizing agents.

Store in the dark.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from exposure to light.

**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:**

Nickel and inorganic compounds, as Ni  
mg/m<sup>3</sup>

ACGIH TLV 1.5; A5 (metal)  
0.2; A1 (insoluble compounds)  
0.1; A4 (soluble compounds)

Austria Carcinogen

Denmark TWA 0.5

Finland TWA 0.1 (skin) Carcinogen

France VME 1; C3-Carcinogen

Germany Carcinogen

Hungary 0.005-STEL; Carcinogen (insoluble compounds)

Japan OEL 1; 2B-Carcinogen

Korea TLV 1.5

Netherlands MAC-TGG 1; Carcinogen  
1 (insoluble compounds)

Norway TWA 0.05

Poland TWA 0.25

Russia 0.05-STEL

Sweden NGV 0.5 (dust)

Switzerland MAK-W 0.5; Carcinogen

United Kingdom TWA 0.1

USA PEL 1

**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.

(Contd. on page 3)  
USA

**Product name: Hexaamminenickel(II) iodide**

(Contd. of page 2)

Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Maintain an ergonomically appropriate working environment.  
**Breathing equipment:** Use suitable respirator when high concentrations are present.  
**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.  
**Penetration time of glove material (in minutes)** Not determined  
**Eye protection:** Safety glasses  
**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Crystalline  
**Odor:** Not determined  
**Odor threshold:** Not determined.

**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  
**Flammability (solid, gaseous)** Not determined.  
**Ignition temperature:** Not determined  
**Decomposition temperature:** Not determined  
**Auto igniting:** Not determined.

**Danger of explosion:** Product does not present an explosion hazard.

**Explosion limits:**  
**Lower:** Not determined  
**Upper:** Not determined  
**Vapor pressure:** Not applicable.  
**Density:** Not determined  
**Relative density** Not determined.  
**Vapor density** Not applicable.  
**Evaporation rate** Not applicable.

**Solubility in / Miscibility with**  
**Water:** Not determined  
**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**  
**dynamic:** Not applicable.  
**kinematic:** Not applicable.  
**Other information** No further relevant information available.

**10 Stability and reactivity**

**Reactivity** No information known.  
**Chemical stability** Stable under recommended storage conditions.  
**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.  
**Possibility of hazardous reactions** No dangerous reactions known  
**Conditions to avoid** No further relevant information available.  
**Incompatible materials:**  
Oxidizing agents  
Light  
**Hazardous decomposition products:**  
Nitrogen oxides  
Hydrogen iodide (HI)  
Toxic metal oxide fume

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:** No effects known.  
**LD/LC50 values that are relevant for classification:** No data  
**Skin irritation or corrosion:** Irritant to skin and mucous membranes.  
**Eye irritation or corrosion:** Irritating effect.  
**Sensitization:**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
**Germ cell mutagenicity:** No effects known.  
**Carcinogenicity:**  
May cause cancer.  
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.  
NTP-K: Known to be carcinogenic: sufficient evidence from human studies.  
**Reproductive toxicity:** No effects known.  
**Specific target organ system toxicity - repeated exposure:** No effects known.  
**Specific target organ system toxicity - single exposure:** No effects known.  
**Aspiration hazard:** No effects known.  
**Subacute to chronic toxicity:**  
Prolonged exposure to iodides may cause skin rash, running nose, headache and irritation of the mucous membranes. In severe cases the skin may show pimples, boils, redness, black and blue spots, hives and blisters. Iodides are readily diffused across the placenta.  
Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract.  
**Subacute to chronic toxicity:** No effects known.  
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Product name: **Hexaaminenickel(II) iodide**

(Contd. of page 3)

## 12 Ecological information

### Toxicity

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Bioaccumulative potential:** No further relevant information available.

**Mobility in soil:** No further relevant information available.

### Additional ecological information:

#### General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Avoid transfer into the environment.

#### Results of PBT and vPvB assessment

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects:** No further relevant information available.

## 13 Disposal considerations

### Waste treatment methods

**Recommendation:** Consult state, local or national regulations to ensure proper disposal.

### Uncleaned packagings:

**Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

Not a hazardous material for transportation.

### UN-Number

DOT, IMDG, IATA None

### UN proper shipping name

DOT, IMDG, IATA None

### Transport hazard class(es)

DOT, ADR, IMDG, IATA None

### Class

Class None

### Packing group

DOT, IMDG, IATA None

### Environmental hazards:

Not applicable.

### Special precautions for user

Not applicable.

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

### Transport/Additional information:

Not dangerous according to the above specifications.

### DOT

Marine Pollutant (DOT): No

## 15 Regulatory information

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

**GHS label elements:** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

### Hazard pictograms



GHS08

### Signal word:

Danger

### Hazard statements

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

### Precautionary statements

P284 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...

P405 Store locked up.

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

### National regulations

This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.

**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.

**Prop 65 - Developmental toxicity, male:** Substance is not listed.

### Information about limitation of use:

For use only by technically qualified individuals.

Workers are not allowed to be exposed to this hazardous material. Exceptions can be made by the authorities in certain cases.

This product contains nickel and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know act of 1986 and 40CFR372.

### 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.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use):** Substance is not listed.

(Contd. on page 5)

**Product name: Hexaamminenickel(II) iodide**

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

(Contd. of page 4)

**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 Material 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 / last revision** 11/24/2015 / -

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

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)