

SAFETY DATA SHEET

Date Accessed: 25/08/2023

Date Revised: 30/11/2022

SECTION 1. IDENTIFICATION

Product Name: Chloroiridic Acid Hexahydrate

CAS #: 16941-92-7

Relevant identified uses of the substance: Scientific research and development

Supplier details:

Stanford Advanced Materials

E-mail: sales@samaterials.com

Tel: (949) 407-8904

Address: 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A.

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Carcinogenicity (Category 2), H351

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled

H314 Causes severe skin burns and eye damage.

H351 Suspected of causing cancer. Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

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

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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 or doctor/ physician.

P322 Specific measures (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Formula : $\text{H}_2\text{Cl}_6\text{Ir} \cdot 6\text{H}_2\text{O}$

Molecular Weight : 515.023 g/mol

CAS-No. : 16941-92-7

SECTION 4. FIRST AID MEASURES

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.

Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing

eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2) and/or

in section 11

Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Hydrogen chloride gas, Iridium oxides

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be

carefully resealed and kept upright to prevent leakage.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Exposure controls Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance Form: solid

Colour: black

b) Odour no data available

c) Odour Threshold no data available

d) pH no data available

e) Melting point/freezing point

Melting point/range: 65 °C (149 °F) - lit.

f) Initial boiling point and boiling range

no data available

g) Flash point no data available

h) Evaporation rate no data available

i) Flammability (solid, gas) no data available

j) Upper/lower flammability or explosive limits

no data available

k) Vapour pressure no data available

l) Vapour density no data available

m) Relative density 1.02 g/cm³ at 25 °C (77 °F)

n) Water solubility no data available

o) Partition coefficient: noctanol/water

no data available

p) Auto-ignition temperature

no data available

q) Decomposition temperature

no data available

r) Viscosity no data available) Explosive properties no data available

t) Oxidizing properties no data available

Other safety information

no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Avoid moisture.

Incompatible materials

Strong oxidizing agents Strong oxidizing agents

Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

no data available

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Limited evidence of carcinogenicity in animal studies

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a

carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure no data available

Aspiration hazard

no data available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects

no data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed

professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 3260 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Hydrogen hexachloroiridate(IV) hydrate)

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 3260 Class: 8 Packing group: II EMS-No: F-A, S-B

Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Hydrogen hexachloroiridate(IV) hydrate)

Marine pollutant: No IATA

UN number: 3260 Class: 8 Packing group: II

Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Hydrogen hexachloroiridate(IV) hydrate)

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that

exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Hydrogen hexachloroiridate(IV) hexahydrate

CAS-No.

16941-92-7

Revision Date

New Jersey Right To Know Components

Hydrogen hexachloroiridate(IV) hexahydrate

CAS-No.

16941-92-7

Revision Date

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.

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.