

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Gold etchant, standard

Product Number : 651818
Brand : Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Harmful by skin absorption., Skin sensitiser, Corrosive, Teratogen

Target Organs

Thyroid, Kidney, Endocrine system., Skin, Eyes, Reproductive system., Central nervous system

GHS Classification

Acute toxicity, Inhalation (Category 4)
Skin corrosion (Category 1C)
Serious eye damage (Category 1)
Skin sensitization (Category 1)
Acute aquatic toxicity (Category 2)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H401 Toxic to aquatic life.

Precautionary statement(s)

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

HMIS Classification

Health hazard: 3
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Rating

Health hazard: 3
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin Causes skin burns.
Eyes Causes eye burns.
Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Classification	Concentration
Potassium iodide		
CAS-No. 7681-11-0 EC-No. 231-659-4	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H302, H315, H319	30 - 50 %
Iodine		
CAS-No. 7553-56-2 EC-No. 231-442-4 Index-No. 053-001-00-3	Acute Tox. 4; Aquatic Acute 1; H400, H312, H332	10 - 30 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

4. 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

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen iodide, Potassium oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

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

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage

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.

Light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Iodine	7553-56-2	C	0.1 ppm 1 mg/m ³	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		C	0.1 ppm 1 mg/m ³	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Remarks	The value in mg/m ³ is approximate. Ceiling limit is to be determined from breathing-zone air samples.			
		C	0.1 ppm 1 mg/m ³	USA. NIOSH Recommended Exposure Limits
		TWA	0.01 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Upper Respiratory Tract irritation Hypothyroidism Not classifiable as a human carcinogen			
		STEL	0.1 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Upper Respiratory Tract irritation Hypothyroidism Not classifiable as a human carcinogen			

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose 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).

Hand 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.

Eye 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 and 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.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid
Colour	no data available

Safety data

pH	no data available
Melting point/freezing point	no data available
Boiling point	100 °C (212 °F) at 1,013 hPa (760 mmHg)
Flash point	> 93 °C (> 199 °F) - closed cup
Ignition temperature	no data available
Auto-ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	1.292 g/cm ³
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapor density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

no data available

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen iodide, Potassium oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

no data available

Inhalation LC50

no data available

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes: no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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.

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

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation

Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Skin

Causes skin burns.

Eyes

Causes eye burns.

Signs and Symptoms of Exposure

Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration.

Synergistic effects

no data available

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product

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

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Harmful by skin absorption., Skin sensitiser, Corrosive, Teratogen

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

	CAS-No.	Revision Date
Iodine	7553-56-2	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Iodine	7553-56-2	2007-03-01
Potassium iodide	7681-11-0	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Iodine	7553-56-2	2007-03-01
Potassium iodide	7681-11-0	

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.

16. OTHER INFORMATION**Text of H-code(s) and R-phrase(s) mentioned in Section 3**

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
Skin Irrit.	Skin irritation

Further information

Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. 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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.