

MATERIAL SAFETY DATA SHEET

Manufacturer: Union Etchants International, Inc.
8 – 10 Greene Street Bldg A
Woburn MA 01801

Non-Emergency Information: 1-781-935-8878

24-Hour Emergency (Chemtrec): 1-800-424-9300

SECTION I – MATERIAL IDENTIFICATION

Material Name: AU-1 Gold Etch, Dry **Date Prepared:** April 27, 2005
Common Names/Synonyms: Proprietary

SECTION II – COMPOSITION / INGREDIENT INFORMATION

Ingredient	CAS Nbr	Percent	Exposure Limits
Potassium Iodide	7681-11-0	<40	Not Established
Iodine	7553-56-2	<10	0.1 ppm (C) ACGIH-STEL 0.1 ppm (C) OSHA-PEL

SECTION III – HEALTH HAZARD INFORMATION

Effects of Exposure:

Ingestion: May cause burning sensations, severe corrosive gastroenteritis, abdominal pain, diarrhea, fever, vomiting, stupor and shock. Iodine is more toxic by the oral route in humans than in experimental animals. Ingestion of as little as 2-3 grams may be fatal to humans.

Inhalation: Highly irritant to the mucous membranes and respiratory tract. Breathing of vapors can result in coughing, shortness of breath or in extreme cases, build-up of fluid in the lungs (pulmonary edema).

Skin Contact: Skin applications of strong solutions may result in burns. Iodine has also been reported to cause skin allergies with rash and itching. Lesions resemble thermal burns in appearance.

Eye Contact: Vapors severely irritate the eyes. Iodine and iodides can be severely corrosive to the eyes and may result in severe ocular burns.

Chronic Exposure / Target Organs: Chronic ingestion of iodides may produce “iodism”, which may be manifested by skin rash, running nose, headache and irritation of the mucous membranes. Weakness, anemia, loss of weight and general depression may occur. Allergic sensitization can occur.

Aggravation of Pre-Existing Conditions: Persons with pre-existing skin disorders, eye problems, impaired respiratory function or disease of the thyroid, lungs or kidney may be more susceptible to the effects of the substance.

SECTION IV – FIRST AID MEASURES

Eyes: Flush with copious amounts of water for 15 minutes, occasionally lifting the upper and lower lids. Seek medical attention if irritation persists.

Skin: Wash skin with copious amounts of water and soap for 15 minutes while removing any contaminated clothing and shoes. Seek medical attention if irritation persists.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

SECTION V – FIRE AND EXPLOSION DATA

Flash Point:	Not combustible	Method:	N/A
LEL %:	N/A	Auto-Ignition:	N/A
UEL %:	N/A		

Fire and Explosion Hazards: Not combustible. Toxic fumes of iodine may be emitted upon heating. Wear chemically resistant gear and NIOSH approved self-contained breathing apparatus. Contact with oxidizers may cause violent combustion.

Extinguishing Media: Use dry powder or carbon dioxide extinguishers. Water spray may be used to keep fire-exposed containers cool. Keep water use to a minimum.

Fire Fighting Instructions

Small Fires: Dry chemical, carbon dioxide or alcohol-resistant foam.

Large Fires: Dry chemical, carbon dioxide or alcohol-resistant foam. Move containers from area if you can without risk. Dike fire control water for later disposal. Do not scatter material.

SECTION VI – SPILL AND LEAK PROCEDURES

Evacuation: Notify safety personnel of iodine spills or leaks. Ventilate and isolate hazard area. Keep unnecessary and unprotected personnel from entering. Wear proper protective equipment. Collect and containerize as much product as possible.

Containment: Eliminate all ignition sources. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Ventilate area of leak or spill. Clean-up and response personnel should wear gloves, protective clothing and NIOSH approved respirator. Dike to contain spill, if liquid. Material can be collected using an inert absorbant and transferred to an approved, labeled spill container for later removal by licensed waste facility. Dry spills can be carefully scooped up and placed into proper spill storage container for later disposal.

Reporting: In the event of a Hazardous Materials Incident during transportation, the regulations in 49CFR 171.5 and 171.16 are to be followed. Under 40CFR 302.6 (CERCLA), any release of a substance in a quantity equal to or greater than its (RQ) threshold amount to soil, water or air, must be reported to the US Coast Guard National Response Center at 1-800-424-8801, as soon as that person has knowledge of the release.

SECTION VII – HANDLING AND STORAGE

Storage Conditions: Store in a cool, dry, well-ventilated area away from incompatible substances and direct sunlight. Keep containers tightly closed and away from all sources of heat or ignition. Prolonged storage is not recommended because of possible degradation problems. Containers of this material may be hazardous when empty since they contain product residue.

SECTION VIII – EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls / Ventilation: Use appropriate engineering controls to reduce air contamination to approved or permissible standards. Where such systems are not effective, wear suitable personal protective equipment, which performs satisfactorily and meets local/national standards.

Eye / Face Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described in OSHA 29 CFR 1910.133 Eye and Face Protection Standard. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Chemical resistant gloves and aprons such as rubber, neoprene or vinyl can be used. Glove selection guides should be consulted.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. Organic vapor or supplied air may be appropriate. Respirator selection and use should comply with OSHA 29CFR 1910.134 Standards.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Granular solid mixture
Odor:	None
Specific Gravity:	N/A
Vapor Pressure:	N/A
Vapor Density (Air=1):	N/A
Evaporation (Butyl Ac=1):	N/A
Boiling Point:	Sublimates, iodine
pH:	5-7 (aq. Soln.)
Solubility:	Complete
Melting/Freezing Point:	N/A

Note: The physical data presented above are typical values and should not be interpreted as a specification.

SECTION X – STABILITY AND REACTIVITY

Stability: Stable under ambient temperatures and pressures. Conditions to avoid are air, light, heat and incompatibles. Reacts with ammonium hydroxide to form shock-sensitive iodide compounds.

Incompatibles: Strong reducing agents, ammonia, powdered metals, alkali metals, oxidizing agents.

Hazardous Decomposition Products: oxides of iodine and iodine fumes / vapor, potassium residues.

Hazardous Polymerization: Will not occur.

SECTION XI – TOXICOLOGICAL INFORMATION

Potassium Iodide (7681-11-0)	TDL0	oral(rat)	10530 mg/kg	Irritation
Iodine (7553-56-2)	LD50	oral(rat)	14 mg/kg	Irritation

SECTION XII – ECOLOGICAL INFORMATION

Terrestrial Fate: No information found.

Aquatic Fate: No information found.

SECTION XIII – DISPOSAL

Dispose of in a manner consistent with federal, state and local regulations. Send all solid and liquid waste to a licensed, approved waste disposal facility.

SECTION XIV – TRANSPORTATION INFORMATION

DOT Class: Corrosive Solid N.O.S. (Potassium Iodide Solid) Class 8, PG III [UN1759]

IATA: Corrosive Solid N.O.S. (Potassium Iodide Solid) Class 8, PG III [UN1759]

SECTION XV – REGULATORY

SARA Title III Hazard Classes:

Fire Hazard: No

Release of Pressure: No

Acute Health Hazard: No

SECTION XVI – OTHER INFORMATION

NFPA Codes:

Health: 2

Flammability: 0

Reactivity: 0

Special: N/A

Users Responsibility: A bulletin such as this cannot be expected to cover all possible individual situations of chemical handling and exposure. As the user has the responsibility to ensure a safe working environment and proper training of those handling this and other chemicals, all aspects of individual operation should be examined to determine if, or where, precautions are required. Any health hazard and safety information herein should be passed on to your employees, customers and anyone who may come in contact with the material.

Disclaimer of Liability: The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards beyond those described herein, and we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations concerning the safe handling, use, storage and disposal of this material.