SAFETY DATA SHEET
GOLD ALKALINE

1. Identification

Product identifier

Product name GOLD ALKALINE

Product number 3023

Recommended use of the chemical and restrictions on use

Application Industrial Use

Details of the supplier of the safety data sheet

Supplier

SIFCO Applied Surface Concepts
5708 E. Schaaf Road
Independence, Ohio 44131
U.S.A.
Tel.: +1 216-524-0099
Fax: +1 216-524-6331
E-Mail: info@sifcoasc.com

Emergency telephone number

Emergency telephone CHEMTREC (United States) (800) 424-9300; CHEMTREC (International) +1 703-527-3887

2. Hazard(s) identification

Classification of the substance or mixture

Physical hazards Not Classified

Health hazards Acute Tox. 3 - H311 Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317

Environmental hazards Not Classified

Label elements

Pictogram

Signal word Danger

Hazard statements

H311 Toxic in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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Precautionary statements

P260 Do not breathe vapor/ spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P301+P310 If swallowed: Immediately call a poison center/ doctor.
P304+P340 If inhaled: Remove person to fresh air and keep 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.
P501 Dispose of contents/ container in accordance with national regulations.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P302+P352 If on skin: Wash with plenty of water.

Contains ETHYLENEDIAMINE

3. Composition/information on ingredients

Mixtures

DICYANOAURATE **1-5%**

CAS number: 14950-87-9

Classification
Not Classified

ETHYLENEDIAMINE **1-5%**

CAS number: 107-15-3

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Skin Corr. 1B - H314
Eye Dam. 1 - H318
Resp. Sens. 1 - H334
Skin Sens. 1 - H317

The full text for all hazard statements is displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation Get medical attention immediately. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Remove affected person from source of contamination. Never give anything by mouth to an unconscious person.

Ingestion Get medical attention immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

Skin Contact Remove contaminated clothing immediately and wash skin with soap and water. Continue to rinse for at least 15 minutes and get medical attention.

Eye contact Remove affected person from source of contamination. Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

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Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

General information Show this Safety Data Sheet to the medical personnel.

Inhalation Toxic: danger of serious damage to health by prolonged exposure through inhalation. Immediate first aid is imperative. Coughing, chest tightness, feeling of chest pressure. Headache.

Ingestion Toxic if swallowed. Immediate first aid is imperative. May cause chemical burns in mouth, esophagus and stomach. May cause stomach pain or vomiting. May cause unconsciousness, blindness and possibly death.

Skin contact May cause serious chemical burns to the skin. May cause sensitization or allergic reactions in sensitive individuals.

Eye contact May cause blurred vision and serious eye damage. Causes serious eye irritation. Immediate first aid is imperative.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards Toxic gases or vapors.

Advice for firefighters

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Contact with acids liberates very toxic gas. Avoid inhalation of vapors and contact with skin and eyes. Evacuate area. Provide adequate general and local exhaust ventilation. If ventilation is inadequate, suitable respiratory protection must be worn. Treat the spilled material according to the instructions in the clean-up section.

Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Methods for cleaning up Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and dispose of spillage as indicated in Section 13. Wash thoroughly after dealing with a spillage.

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

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Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Contact with acids liberates very toxic gas. Avoid inhalation of vapors and spray/mists. Provide adequate general and local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Keep only in the original container. Keep container tightly closed in a cool place. Protect from freezing and direct sunlight. Store away from the following materials: Acids.

Storage class Toxic storage.

Specific end uses(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

ETHYLENEDIAMINE

Long-term exposure limit (8-hour TWA): OSHA 10 ppm 25 mg/m³
OSHA = Occupational Safety and Health Administration.

Exposure controls

Protective equipment

Appropriate engineering controls As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist.

Eye/face protection Tight-fitting safety glasses.

Hand protection It is recommended that chemical-resistant, impervious gloves are worn. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. It is recommended that gloves are made of the following material: Nitrile rubber.

Other skin and body protection Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

Respiratory protection If ventilation is inadequate, suitable respiratory protection must be worn. Seek advice from supervisor on the company's respiratory protection standards.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Liquid.

Color Yellow.

Odor Almond.

pH pH (concentrated solution): 9.5-10.5

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Relative density	1.017-1.027 @ 20°C
Other information	Not available.
Volatile organic compound	This product contains a maximum VOC content of EDA 12 g/l.

10. Stability and reactivity

Reactivity	Do not mix with acid. Contact with acids liberates very toxic gas. Hydrogen cyanide (HCN).
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Do not mix with acid. Contact with acids liberates very toxic gas. Hydrogen cyanide (HCN).
Conditions to avoid	Avoid contact with acids. Avoid contact with oxidizing agents. Avoid excessive heat for prolonged periods of time.
Materials to avoid	1. Acids 4. Chlorates Magnesium. 12. Nitrites and their mixtures
Hazardous decomposition products	Hydrogen cyanide (HCN).

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	41,666.67

Acute toxicity - dermal

ATE dermal (mg/kg)	300.0

Inhalation	Vapor from this product may be hazardous by inhalation.
Ingestion	Very toxic if swallowed. May cause stomach pain or vomiting. May cause severe internal injury.
Skin Contact	May cause skin irritation. May cause sensitization or allergic reactions in sensitive individuals.
Eye contact	May cause serious eye damage. Immediate first aid is imperative.
Route of entry	Ingestion Inhalation Skin and/or eye contact

Toxicological information on ingredients.

ETHYLENEDIAMINE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	1,200.0
Species	Rat
ATE oral (mg/kg)	500.0

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	560.0

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Species	Rabbit
ATE dermal (mg/kg)	1,100.0
Acute toxicity - inhalation	
Acute toxicity inhalation (LC_{50} dust/mist mg/l)	14.7
Species	Rat
ATE inhalation (vapours mg/l)	11.0

12. Ecological Information

Ecotoxicity The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Toxicity No data available.

Ecological information on ingredients.

DICYANOAURATE

Acute aquatic toxicity

$LE(C)_{50}$ 0.1 < L(E)C50 ≤ 1

ETHYLENEDIAMINE

Acute toxicity - fish	, 96 hour: 115.7 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	, 48 hour: 3 mg/l, Daphnia magna
Acute toxicity - aquatic plants	, 96 hour: 151 mg/l, Pseudokirchneriella subcapitata

Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.

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Biodegradation - 94: ~ 28 days

Bioaccumulative potential

Bio-Accumulative Potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil

Mobility The product is soluble in water.

Other adverse effects

Other adverse effects Not determined.

13. Disposal considerations

Waste treatment methods

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General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.

14. Transport information

UN Number

UN No. (TDG) 1935

UN No. (IMDG) 1935

UN No. (ICAO) 1935

UN No. (DOT) 1935

UN proper shipping name

Proper shipping name (TDG) CYANIDE SOLUTION, N.O.S. (GOLD POTASSIUM CYANIDE)

Proper shipping name (IMDG) CYANIDE SOLUTION, N.O.S. (GOLD POTASSIUM CYANIDE)

Proper shipping name (ICAO) CYANIDE SOLUTION, N.O.S. (GOLD POTASSIUM CYANIDE)

Proper shipping name (DOT) CYANIDE SOLUTION, N.O.S. (GOLD POTASSIUM CYANIDE)

Transport hazard class(es)

TDG class 6.1

TDG label(s) 6.1

IMDG Class 6.1

ICAO class/division 6.1

Transport labels

Packing group

TDG Packing Group III

IMDG packing group III

ICAO packing group III

DOT packing group III

Environmental hazards

Environmentally Hazardous Substance

Special precautions for user

EmS F-A, S-A

15. Regulatory information

US Federal Regulations

GOLD ALKALINE

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

Ethylenediamine
10,000 lbs

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

Ethylenediamine
Final CERCLA RQ: 5,000 lbs

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Ethylenediamine
EPCRA RQ: 5,000 lbs

SARA 313 Emission Reporting

Exempt.

CAA Accidental Release Prevention

Ethylenediamine
Threshold Quantity: 20,000 lbs
HAP
Gold Potassium Cyanide

SARA (311/312) Hazard Categories

Acute
Chronic
Reactivity

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Exempt.

California Directors List of Hazardous Substances

Ethylenediamine

Inventories

US - TSCA

All ingredients are present.

16. Other information

Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Carc. = Carcinogenicity Eye Dam. = Serious eye damage Eye Irrit. = Eye irritation Flam. Liq. = Flammable liquid Repr. = Reproductive toxicity Resp. Sens. = Respiratory sensitisation Skin Corr. = Skin corrosion Skin Irrit. = Skin irritation Skin Sens. = Skin sensitisation STOT RE = Specific target organ toxicity-repeated exposure STOT SE = Specific target organ toxicity-single exposure
Revision date	6/18/2016
Revision	2

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Hazard statements in full	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H311 Toxic in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
NFPA - instability hazard	Unstable if heated. (1)
NFPA - health hazard	Extremely hazardous, serious injury. (3)
NFPA - flammability hazard	Will not burn. (0)