



**SAFETY DATA SHEET
ZINC ALKALINE**

1. Identification

Product identifier

Product name ZINC ALKALINE

Product number 2100/5980

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. 4 - H302 Acute Tox. 4 - H312 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317

Environmental hazards Not Classified

Label elements

Pictogram



Signal word

Danger

Hazard statements

H302+H312 Harmful if swallowed or in contact with skin.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

ZINC ALKALINE

Precautionary statements	<p>P260 Do not breathe vapor/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P284 [In case of inadequate ventilation] wear respiratory protection.</p> <p>P301+P310 If swallowed: Immediately call a poison center/ doctor.</p> <p>P302+P352 If on skin: Wash with plenty of water.</p> <p>P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p>
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Contains ZINC FORMATE, ETHYLENEDIAMINE, FORMIC ACID 3.9%

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

ZINC FORMATE 20-25% CAS number: 557-41-5 M factor (Acute) = 1
Classification Acute Tox. 4 - H302 Eye Irrit. 2 - H319 Aquatic Acute 1 - H400
ETHYLENEDIAMINE 15-20% 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
FORMIC ACID 3.9% 1-5% CAS number: 64-18-6
Classification Skin Corr. 1A - H314 Eye Dam. 1 - H318

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

4. First-aid measures

ZINC ALKALINE

Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Get medical attention immediately. Do not induce vomiting.
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. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Most important symptoms and effects, both acute and delayed

Inhalation	Coughing, chest tightness, feeling of chest pressure.
Ingestion	May cause chemical burns in mouth and throat. May cause stomach pain or vomiting.
Skin contact	May cause serious chemical burns to the skin.
Eye contact	Causes severe burns. May cause serious eye damage.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations.
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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 Corrosive gases or vapors.

Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapors. Provide adequate general and local exhaust ventilation.

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. 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.

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7. Handling and storage

Precautions for safe handling

Usage precautions Avoid spilling. Avoid contact with skin and eyes. Avoid inhalation of vapors and spray/mists. Provide adequate general and local exhaust ventilation.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect from freezing and direct sunlight.

Storage class Corrosive 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

FORMIC ACID 3.9%

Long-term exposure limit (8-hour TWA): ACGIH 5 ppm 9.4 mg/m³

Long-term exposure limit (8-hour TWA): OSHA 5 ppm 9 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 ppm 19 mg/m³

OSHA = Occupational Safety and Health Administration.

ACGIH = American Conference of Governmental Industrial Hygienists.

Ingredient comments WEL = Workplace Exposure Limits

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. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

9. Physical and chemical properties

ZINC ALKALINE

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Amber.
Odor	Amine.
pH	pH (concentrated solution): 8.3-8.7
Relative density	1.17-1.19 @ 20°C
Other information	Not available.
Volatile organic compound	This product contains a maximum VOC content of EDA 223 g/l. This product contains a maximum VOC content of FORMIC ACID 46 g/l.

10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	Stable at normal ambient temperatures and when used as recommended.
Possibility of hazardous reactions	Not determined.
Conditions to avoid	Avoid excessive heat for prolonged periods of time.
Materials to avoid	Acids - oxidizing. Acids - non-oxidizing.
Hazardous decomposition products	None at ambient temperatures.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 1,174.50204331

Acute toxicity - dermal

ATE dermal (mg/kg) 1,587.3015873

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 44.5392865

Inhalation	Vapors irritate the respiratory system.
Ingestion	Causes severe burns. May cause chemical burns in mouth, esophagus and stomach.
Skin Contact	May cause serious chemical burns to the skin.
Eye contact	Causes serious eye damage. Immediate first aid is imperative.
Acute and chronic health hazards	May cause burns in mucous membranes, throat, esophagus and stomach.
Route of exposure	Ingestion Inhalation Skin and/or eye contact

Toxicological information on ingredients.

ZINC FORMATE

ZINC ALKALINEAcute toxicity - oral

ATE oral (mg/kg) 500.0

ETHYLENEDIAMINEAcute toxicity - oralAcute toxicity oral (LD₅₀
mg/kg) 1,200.0

Species Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermalAcute toxicity dermal (LD₅₀
mg/kg) 560.0

Species Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalationAcute toxicity inhalation
(LC₅₀ dust/mist mg/l) 14.7

Species Rat

ATE inhalation (vapours
mg/l) 11.0FORMIC ACID 3.9%Acute toxicity - oralAcute toxicity oral (LD₅₀
mg/kg) 730.0

Species Rat

ATE oral (mg/kg) 730.0

Acute toxicity - inhalationAcute toxicity inhalation
(LC₅₀ vapours mg/l) 7.4

Species Rat

ATE inhalation (vapours
mg/l) 7.4**12. Ecological information**

Ecotoxicity The product contains a substance which may have hazardous effects on the environment.

Toxicity No data available.

Ecological information on ingredients.ZINC FORMATEAcute aquatic toxicity

ZINC ALKALINE

LE(C)₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1

ETHYLENEDIAMINE**Acute aquatic toxicity**

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

FORMIC ACID 3.9%**Acute aquatic toxicity**

Acute toxicity - fish LC₅₀, 96 hours: 130 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 365 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 1240 mg/l, Selenastrum capricornutum

Persistence and degradability

Persistence and degradability No data available.

Ecological information on ingredients.**ETHYLENEDIAMINE**

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.

Ecological information on ingredients.**FORMIC ACID 3.9%**

Surface tension 71.5 mN/m @ 20°C/°F

Other adverse effects

Other adverse effects Not determined.

13. Disposal considerations**Waste treatment methods****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.

Disposal methods

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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14. Transport information

UN Number

UN No. (TDG)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (DOT)	1760

UN proper shipping name

Proper shipping name (TDG)	CORROSIVE LIQUID, N.O.S. (ETHYLENEDIAMINE, FORMIC ACID ...%)
Proper shipping name (IMDG)	CORROSIVE LIQUID, N.O.S. (ETHYLENEDIAMINE, FORMIC ACID ...%)
Proper shipping name (ICAO)	CORROSIVE LIQUID, N.O.S. (ETHYLENEDIAMINE, FORMIC ACID ...%)
Proper shipping name (DOT)	CORROSIVE LIQUID, N.O.S. (ETHYLENEDIAMINE, FORMIC ACID ...%)

Transport hazard class(es)

TDG class	8
TDG label(s)	8
IMDG Class	8
ICAO class/division	8

Transport labels



Packing group

TDG Packing Group	II
IMDG packing group	II
ICAO packing group	II
DOT packing group	II

Environmental hazards

Environmentally Hazardous Substance
No.

Special precautions for user

EmS F-A, S-B

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information required.

15. Regulatory information

National regulations

The customer is advised to check if there are specific local or national regulations specifically applicable to the chemicals contained in the product. The hazards statement for this product is in accordance with international regulations, always observing the most stringent requirements.

ZINC ALKALINE

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

Ethylenediamine
10000 lbs

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

Ethylenediamine
Final CERCLA RQ: 5000 lbs
Formic Acid
Final CERCLA RQ: 5000 lbs
Zinc Formate
Final CERCLA RQ: 1000 lbs

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

Ethylenediamine
EPCRA RQ: 5000 lbs

SARA 313 Emission Reporting

Formic Acid
Zinc Formate

CAA Accidental Release Prevention

Ethylenediamine
Threshold Quantity: 20000 lbs

SARA (311/312) Hazard Categories

Acute
Chronic

OSHA Highly Hazardous Chemicals

Exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

Exempt.

California Directors List of Hazardous Substances

Ethylenediamine
Formic Acid
Zinc Formate

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
Muta. = Germ cell mutagenicity
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

ZINC ALKALINE

Revision date	8/6/2018
Revision	2
Hazard statements in full	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H302+H312 Harmful if swallowed or in contact with skin. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. 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. H400 Very toxic to aquatic life.
NFPA - health hazard	Extremely hazardous, serious injury. (3)
NFPA - flammability hazard	Will not burn. (0)
NFPA - instability hazard	Normally stable. (0)

The Information in this data sheet is believed to be correct but neither we nor our employees or agents give any warranty or make any representation to the accuracy thereof and accept no liability for any loss, injury or damage which may result in it's use. The sole purpose of this data sheet is to provide guidance on the safe handling and use of the products to which it relates. It does not form part of any product specification nor part of any contract. It is not practical for the guidance and information in this data sheet to cover every conceivable application of a product and as we may not be aware of the use to which the products covered by this data sheet are to be put it remains the responsibility of the user to conduct it's own tests and to satisfy itself as to the suitability of the product.