

SAFETY DATA SHEET

ECONOLITE ADDITIVE

Revision Date: 30-Apr-2019

Revision Number: 45

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1. Product Identifier

Product Trade Name: ECONOLITE ADDITIVE
Synonyms None
Chemical Family: Silicate
Internal ID Code HM000477

1.2 Recommended use and restrictions on use

Application Additive
Uses advised against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier

Halliburton Energy Services
11th Floor, Baoviet Financial Centre
No 233 Dong Khoi Str
Ben Nghe Ward, Dist 1
Ho Chi Minh city
Vietnam

Phone Number: +84 8 35 287 600

Prepared By

Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number

1-760-476-3959
Global Incident Response Access Code: 334305
Contract Number: 14012

2. Hazards Identification

Classification of the hazardous chemical

| | |
|--|-------------------|
| Skin Corrosion / Irritation | Category 1 - H314 |
| Serious Eye Damage/Irritation | Category 1 - H318 |
| Specific Target Organ Toxicity - (Single Exposure) | Category 3 - H335 |
| Substances/mixtures corrosive to metal | Category 1 - H290 |

Label Elements

Hazard Pictograms



Signal Word: Danger

Hazard Statements
 H290 - May be corrosive to metals
 H314 - Causes severe skin burns and eye damage
 H318 - Causes serious eye damage
 H335 - May cause respiratory irritation

Precautionary Statements

Prevention
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P234 - Keep only in original packaging.
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
Response
 P280 - Wear protective gloves/eye protection/face protection
 P301+ P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 P363 - Wash contaminated clothing before reuse
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310 - Immediately call a POISON CENTER or doctor/physician
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Storage
 P390 - Absorb spillage to prevent material damage
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
 P405 - Store locked up
Disposal
 P406 - Store in corrosive resistant container with a resistant inliner
 P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains

Substances

Sodium metasilicate, anhydrous

CAS Number

6834-92-0

Other hazards which do not result in classification

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

3. Composition/information on Ingredients

Product Classification: Substance

| Substances | CAS Number | PERCENT (w/w) | GHS Classification - Vietnam |
|--------------------------------|------------|---------------|---|
| Sodium metasilicate, anhydrous | 6834-92-0 | 60 - 100% | Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290) |

4. First Aid Measures

4.1. Description of first aid measures

| | |
|-------------------|--|
| Inhalation | If inhaled, move victim to fresh air and seek medical attention. |
| Eyes | Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention. |
| Skin | In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately. |
| Ingestion | Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention. |

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. May cause respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

Extinguishing media which must not be used for safety reasons

None known.

5.2 Specific hazards arising from the substance or mixture

Special exposure hazards in a fire

None anticipated

5.3 Special protective equipment and precautions for fire-fighters

Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Evacuate all persons from the area. See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

7. Handling and storage

7.1. Precautions for safe handling

Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities**Storage Information**

Store away from acids.

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits****8.2 Appropriate engineering controls**

Engineering Controls Use in a well ventilated area. Localized ventilation should be used to control dust levels.

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. HEPA Respirator.

Hand Protection Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.35 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection Long-sleeve shirt, long pants, and shoes plus socks. Rubber apron.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

| | | |
|------------------------------|-------------------|--------------------------|
| Physical State: Solid | Color | White |
| Odor: Odorless | Odor | No information available |
| | Threshold: | |

| <u>Property</u> | <u>Values</u> |
|----------------------------------|-------------------|
| <u>Remarks/ - Method</u> | |
| pH: | 12.7 |
| Freezing Point / Range | No data available |
| Melting Point / Range | No data available |
| Pour Point / Range | No data available |
| Boiling Point / Range | No data available |
| Flash Point | No data available |
| Flammability (solid, gas) | No data available |
| Upper flammability limit | No data available |

| | |
|--|--------------------------|
| Lower flammability limit | No data available |
| Evaporation rate | No data available |
| Vapor Pressure | 0.0103 kPa |
| Vapor Density | No data available |
| Specific Gravity | 2.4 |
| Water Solubility | Soluble in water |
| Solubility in other solvents | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity | No data available |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

9.2. Other information

| | |
|------------------|-------------------|
| Molecular Weight | 124.09 |
| VOC Content (%) | No data available |

10. Stability and Reactivity**10.1. Reactivity**

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong acids. Prolonged contact with aluminum, lead, or zinc may liberate flammable hydrogen.

10.6. Hazardous decomposition products

None known.

11. Toxicological Information**11.1 Information on likely routes of exposure**

Principle Route of Exposure Eye or skin contact, inhalation.

11.2 Symptoms related to the physical, chemical and toxicological characteristics**Acute Toxicity**

| | |
|--------------|---|
| Inhalation | Causes severe respiratory burns. |
| Eye Contact | Causes severe eye irritation which may damage tissue. |
| Skin Contact | Causes severe burns. |
| Ingestion | Causes burns of the mouth, throat and stomach. |

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

11.3 Toxicity data**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------|------------|-----------|-------------|-----------------|
|------------|------------|-----------|-------------|-----------------|

| | | | | |
|--------------------------------|-----------|---|--|--|
| Sodium metasilicate, anhydrous | 6834-92-0 | 3400 mg/kg (Rat) 5150 mg/kg (Rat) 1152-1349 mg/kg (Rat) 770-820 mg/kg (Mouse) 800 mg/kg (Rat) 1750 mg/kg (Rat) | > 5000 mg/kg (Rat) (similar substance) | > 2.06 mg/L (Rat) 4h (similar substance) |
|--------------------------------|-----------|---|--|--|

| Substances | CAS Number | Skin corrosion/irritation |
|--------------------------------|------------|----------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | Corrosive to skin (Rabbit) |

| Substances | CAS Number | Serious eye damage/irritation |
|--------------------------------|------------|-------------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | Corrosive to eyes (Rabbit) |

| Substances | CAS Number | Skin Sensitization |
|--------------------------------|------------|---|
| Sodium metasilicate, anhydrous | 6834-92-0 | Did not cause sensitization on laboratory animals (mouse) |

| Substances | CAS Number | Respiratory Sensitization |
|--------------------------------|------------|---------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | No information available |

| Substances | CAS Number | Mutagenic Effects |
|--------------------------------|------------|--|
| Sodium metasilicate, anhydrous | 6834-92-0 | In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects. |

| Substances | CAS Number | Carcinogenic Effects |
|--------------------------------|------------|--------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | No information available |

| Substances | CAS Number | Reproductive toxicity |
|--------------------------------|------------|---|
| Sodium metasilicate, anhydrous | 6834-92-0 | Did not show teratogenic effects in animal experiments. |

| Substances | CAS Number | STOT - single exposure |
|--------------------------------|------------|-----------------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | May cause respiratory irritation. |

| Substances | CAS Number | STOT - repeated exposure |
|--------------------------------|------------|---|
| Sodium metasilicate, anhydrous | 6834-92-0 | No significant toxicity observed in animal studies at concentration requiring classification. |

| Substances | CAS Number | Aspiration hazard |
|--------------------------------|------------|-------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | Not applicable |

12. Ecological Information

12.1. Toxicity

Substance Ecotoxicity Data

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Toxicity to Invertebrates |
|--------------------------------|------------|--|---|--|--|
| Sodium metasilicate, anhydrous | 6834-92-0 | EC50 (72h) 207 mg/L (biomass) (Desmodesmus subspicatus) ErCO (72h) > 345.4 mg/L (Desmodesmus subspicatus) (similar substance) | LC50 (96h) 210 mg/L (Brachydanio rerio) LC50 (96h) 1108 mg/L (Danio rerio) LC50 (96h) 260 – 310 mg/L (Oncorhynchus mykiss) LC50 (96h) 2320 mg/L (Gambusia affinis) | EC0 (20m) 3454 mg/L (Pseudomonas putida) EC0 (18h) > 348 mg/L (Pseudomonas putida) Respiration EC50 (3h) > 100 mg/L (Respiration) (activated sludge) (Pseudomonas putida) EC0 (30m):1000 mg/L (Respiration) | EC50 (48h) 1700 mg/L (Daphnia magna) (similar substance) |

| | | | | | |
|--|--|--|--|----------------------|--|
| | | | | (Pseudomonas putida) | |
|--|--|--|--|----------------------|--|

12.2. Persistence and degradability

| Substances | CAS Number | Persistence and Degradability |
|--------------------------------|------------|--|
| Sodium metasilicate, anhydrous | 6834-92-0 | The methods for determining biodegradability are not applicable to inorganic substances. |

12.3. Bioaccumulative potential

| Substances | CAS Number | Bioaccumulation |
|--------------------------------|------------|--------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | No information available |

12.4. Mobility in soil

| Substances | CAS Number | Mobility |
|--------------------------------|------------|--------------------------|
| Sodium metasilicate, anhydrous | 6834-92-0 | No information available |

12.5 Other adverse effects

No information available

13. Disposal Considerations**13.1. Waste treatment methods**

Disposal methods Follow all applicable community, national or regional regulations regarding waste management methods.

Contaminated Packaging

This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of container according to national or local regulations.

14. Transport Information**Transportation Information**

UN Number UN3262
UN proper shipping name: Corrosive Solid, Basic, Inorganic, N.O.S. (Sodium Metasilicate, Anhydrous)
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable

IMDG/IMO

UN Number UN3262
UN proper shipping name: Corrosive Solid, Basic, Inorganic, N.O.S. (Sodium Metasilicate, Anhydrous)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-A, S-B

IATA/ICAO

UN Number UN3262
UN proper shipping name: Corrosive Solid, Basic, Inorganic, N.O.S. (Sodium Metasilicate, Anhydrous)
Transport Hazard Class(es): 8
Packing Group: III
Environmental Hazards: Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

Special Precautions for User None

15. Regulatory Information

International Agreements

| | |
|---|-----------------|
| Montreal Protocol - Ozone Depleting Substances: | Does not apply. |
| Stockholm Convention - Persistent Organic Pollutants: | Does not apply |
| Rotterdam Convention - Prior Informed Consent: | Does not apply. |
| Basel Convention - Hazardous Waste: | Does not apply. |

16. Other information

Preparation Information

Prepared By Chemical Stewardship
Telephone: 1-281-871-6107
e-mail: fdunexchem@halliburton.com

Revision Date: 30-Apr-2019

Reason for Revision SDS sections updated:
2

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms used in the safety data sheet

bw – body weight
CAS – Chemical Abstracts Service
d - day
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
h - hour
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
w/w - weight/weight

Key literature references and sources for data

www.ChemADVISOR.com/

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End of Safety Data Sheet