

## Safety Data Sheet acc. to OSHA HCS

Printing date 08/24/2020

Reviewed on 08/24/2020

### 1 Identification

· **Product identifier**

- Trade name: KYZEN E5321-LF
- Application of the substance / the mixture: Cleaning agent/ Cleaner

· **Details of the supplier of the safety data sheet**

· Manufacturer/Supplier:  
KYZEN  
430 Harding Industrial Drive  
NASHVILLE, TN 37211 USA  
P: 1-800-845-5524  
www.KYZEN.com

· Information department:

Safety Data Sheet Coordinator

<https://www.kyzen.com/cleaning-chemistries-products-services/kyzen-safety-data-sheet/>

· Emergency telephone number:

CHEMTREC

Within the USA and Canada: 1-800 424-9300

Outside the USA and International: +1-703-527-3887

### 2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS08

Repr. 1B      H360 May damage fertility or the unborn child.



GHS05

Skin Corr. 1A   H314 Causes severe skin burns and eye damage.

Eye Dam. 1    H318 Causes serious eye damage.

· **Label elements**

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).  
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- Hazard pictograms



GHS05 GHS08

- Signal word Danger

- Hazard-determining components of labeling:

2-(2-aminoethoxy)ethanol  
tetrahydro-2-furymethanol

- Hazard statements

H314 Causes severe skin burns and eye damage.

H360 May damage fertility or the unborn child.

- Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dusts or mists.

P264 Wash thoroughly after handling.

P280 Wear protective gloves/protective clothing/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/shower.

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.

P310 Immediately call a poison center/doctor.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P321 Specific treatment (see on this label).

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- NFPA ratings (scale 0 - 4)



Health = 3

Fire = 0

Reactivity = 0

- HMIS-ratings (scale 0 - 4)



Health = \*3

Fire = 0

Reactivity = 0

- **Other hazards**

- Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

100-51-6	alpha-Hydroxytoluene	25-50%
929-06-6	2-(2-aminoethoxy)ethanol	≥5-≤10%
34590-94-8	Dipropylene glycol monomethyl ether	≥2.5-<10%
97-99-4	tetrahydro-2-furylmethanol	≥0.1-≤2.5%
126-86-3	2,4,7,9-tetramethyldec-5-yne-4,7-diol	≤2.5%
1310-73-2	sodium hydroxide	≥0.5-<2%
84962-98-1	Sodium (trihydroxysilyl) propylmethylphosphonate	≤2.5%

### 4 First-aid measures

- **Description of first aid measures**
- General information:  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation:  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.  
In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing:  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- Information for doctor:  
Most important symptoms and effects, both acute and delayed No further relevant information available.  
Indication of any immediate medical attention and special treatment needed  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- Suitable extinguishing agents:  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- Protective equipment: Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent from spreading (e.g. by damming-in or oil barriers).
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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- Use neutralizing agent.
- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.
- **Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 8 for information on personal protection equipment.
- See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- Precautions for safe handling
- Ensure good ventilation/exhaustion at the workplace.
- Open and handle receptacle with care.
- Prevent formation of aerosols.
- Information about protection against explosions and fires: Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- Storage:
- Requirements to be met by storerooms and receptacles: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- Components with limit values that require monitoring at the workplace:  
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

### 100-51-6 alpha-Hydroxytoluene

WEEL Long-term value: 10 ppm

### 34590-94-8 Dipropylene glycol monomethyl ether

PEL Long-term value: 600 mg/m<sup>3</sup>, 100 ppm  
SkinREL Short-term value: 900 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 600 mg/m<sup>3</sup>, 100 ppm  
SkinTLV Short-term value: 909 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 606 mg/m<sup>3</sup>, 100 ppm  
Skin

### 97-99-4 tetrahydro-2-furylmethanol

WEEL Long-term value: 0.5 ppm

### 1310-73-2 sodium hydroxide

PEL Long-term value: 2 mg/m<sup>3</sup>REL Ceiling limit value: 2 mg/m<sup>3</sup>TLV Ceiling limit value: 2 mg/m<sup>3</sup>

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- Regulatory information
  - WEEL: Guide to Occupational Exposure Values (AIHA WEELs)
  - PEL: Guide to Occupational Exposure Values (OSHA PELs)
  - REL: Guide to Occupational Exposure Values (NIOSH RELs)
  - TLV: Guide to Occupational Exposure Values (ACGIH)
- Additional information: The lists that were valid during the creation were used as basis.
- **Exposure controls**
  - Personal protective equipment:
  - General protective and hygienic measures:
    - Keep away from foodstuffs, beverages and feed.
    - Immediately remove all soiled and contaminated clothing.
    - Wash hands before breaks and at the end of work.
    - Store protective clothing separately.
    - Avoid contact with the eyes and skin.
  - Breathing equipment: Use suitable respiratory protective device in case of insufficient ventilation.
  - Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves
 

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material
 

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

- General Information
- Appearance:
 

Form:	Liquid
Color:	Light yellow
· Odor:	Mild
· Odor threshold:	Not determined.
- pH-value at 20 °C (68 °F): 13.2
- Change in condition
 

Melting point/Melting range:	Undetermined.
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Boiling point/Boiling range:	100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Density at 20 °C (68 °F):	1.072 g/cm <sup>3</sup> (8.946 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- Acute toxicity:

· LD/LC50 values that are relevant for classification:

### 100-51-6 alpha-Hydroxytoluene

Oral	LD50	1,230 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

### 929-06-6 2-(2-aminoethoxy)ethanol

Oral	LD50	5,660 mg/kg (rat)
Dermal	LD50	1,190 mg/kg (rabbit)

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**97-99-4 tetrahydro-2-furylmethanol**

Oral	LD50	1,600 mg/kg (rat)
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- Primary irritant effect:
  - on the skin: Caustic effect on skin and mucous membranes.
  - on the eye: Strong caustic effect.
- Other information (about experimental toxicology):  
Tetrahydrofurfuryl alcohol, CAS 97-99-4: Animal dermal, inhalation and feeding studies on this material at relatively high dosage levels have demonstrated systemic toxicity and reproductive toxicity. To date, there is no indication of any adverse chronic health effects in humans from this material in over 40 years of industrial use.
- Additional toxicological information:  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- Carcinogenic categories

· IARC (International Agency for Research on Cancer)
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None of the ingredients is listed.
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· NTP (National Toxicology Program)
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None of the ingredients is listed.
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· OSHA-Ca (Occupational Safety & Health Administration)
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None of the ingredients is listed.
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## 12 Ecological information

- **Toxicity**
  - Aquatic toxicity: No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - Bioaccumulative potential No further relevant information available.
  - Mobility in soil No further relevant information available.
- **Additional ecological information:**
  - General notes:  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **Results of PBT and vPvB assessment**
  - PBT: Not applicable.
  - vPvB: Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- Recommendation:  
Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.

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- **Uncleaned packagings:**
- Recommendation: Disposal must be made according to official regulations.
- Recommended cleansing agent: Water, if necessary with cleansing agents.

## 14 Transport information

- |   |  |
|---|--|
| · <b>UN-Number</b>  | UN3267   |
| · DOT, ADR, IMDG, IATA  |  |
| · <b>UN proper shipping name</b>  | Corrosive liquid, basic, organic, n.o.s. (Sodium hydroxide, 2-(2-Aminoethoxy) ethanol)     |
| · DOT   | 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (SODIUM HYDROXIDE, 2-(2-AMINOETHOXY)ETHANOL) |
| · ADR   | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (SODIUM HYDROXIDE, 2-(2-AMINOETHOXY)ETHANOL)      |
| · IMDG, IATA  |  |
| · <b>Transport hazard class(es)</b>   |  |
| · DOT   |  |
|    |  |
| · Class   | 8 Corrosive substances   |
| · Label   | 8  |
| · ADR, IMDG, IATA   |  |
|  |  |
| · Class   | 8 Corrosive substances   |
| · Label   | 8  |
| · <b>Packing group</b>  | III  |
| · DOT, ADR, IMDG, IATA  |  |
| · <b>Environmental hazards:</b>   | No   |
| · Marine pollutant:   |  |
| · <b>Special precautions for user</b>   | Warning: Corrosive substances  |
| · Hazard identification number (Kemler code):                                       | 80   |
| · EMS Number:   | F-A,S-B  |
| · Segregation groups  | Alkalis  |
| · Stowage Category  | A  |
| · Stowage Code  | SW2 Clear of living quarters.  |
| · Segregation Code  | SG35 Stow "separated from" SGG1-acids  |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>    | Not applicable.  |

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## · Transport/Additional information:

· DOT

· Quantity limitations

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· ADR

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

## · UN "Model Regulation":

UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

(SODIUM HYDROXIDE, 2-(2-AMINOETHOXY)ETHANOL), 8, III

## 15 Regulatory information

### · Safety, health and environmental regulations/legislation specific for the substance or mixture

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

67-56-1 methanol

· TSCA (Toxic Substances Control Act): All ingredients are listed.

· Hazardous Air Pollutants

67-56-1 methanol

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

67-56-1 methanol

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

The information contained in this Safety Data Sheet is based on available data from reliable sources and is accurate to the best of KYZEN Corporation's knowledge at the time of this publication. KYZEN makes no warranty, expressed or implied, of merchantability or fitness for a particular purpose, course of performance or usage of trade. The user is solely responsible for determining the suitability and completeness of such information for their particular application and for adopting appropriate safety precautions. Physical properties listed within are typical values based on samples tested and should not be construed as guaranteed analysis of any specific lot or as specifications for the product. KYZEN does not intend this information to be all-inclusive as to the manner and conditions of use, handling, storage and disposal. Other factors may involve additional legal, environmental, safety or performance considerations, and KYZEN assumes no liability whatsoever for the use of, or reliance upon, this information. | [www.kyzen.com/terms](http://www.kyzen.com/terms)

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- **Contact:** SDS Coordinator
- Date of preparation / last revision 08/24/2020 / 1.0
- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Skin Corr. 1A: Skin corrosion/irritation – Category 1A
  - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  - Repr. 1B: Reproductive toxicity – Category 1B
- \* Data compared to the previous version altered.

US