

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations


Printing date: May 02, 2017

Revision: May 02, 2017

## 1 Identification

- **Product identifier**
- **Trade name:** EkoEtch
- **Other means of identification:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Aluminum etchant
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
Stewart Systems  
8878 Harmony Church Rd.  
Johnstown, OH 43031  
USA  
888-356-7659 (Toll-Free)  
509-782-3626 (International)
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Met. Corr.1 H290 May be corrosive to metals.  
Skin Corr. 1C 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).
- **Hazard pictograms:**  
  
GHS05
- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements:**  
P234 Keep only in original container.  
P260 Do not breathe mist/vapors/spray.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye 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.

(Cont'd. on page 2)



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 1)

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.  
 P363 Wash contaminated clothing before reuse.  
 P390 Absorb spillage to prevent material damage.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

7664-38-2	phosphoric acid	⚠ Skin Corr. 1B, H314	20-60%
34590-94-8	(2-methoxymethylethoxy)propanol	Flam. Liq. 4, H227	<10%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
 For the wording of the listed Hazard Statements refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air; consult doctor in case of complaints.  
 Provide oxygen treatment if affected person has difficulty breathing.

· **After skin contact:**

Immediately rinse with water.  
 If skin irritation continues, consult a doctor.  
 Seek immediate medical help for blistering or open wounds.

· **After eye contact:**

Protect unharmed eye.  
 Remove contact lenses if worn.  
 Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.  
 Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed:**

Coughing  
 Breathing difficulty  
 Strong caustic effect on skin and mucous membranes.  
 Gastric or intestinal disorders when ingested.  
 Nausea in case of ingestion.

(Cont'd. on page 3)



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 2)

- **Danger:**  
Danger of gastric perforation.  
Causes serious eye damage.  
Danger of convulsion.
- **Indication of any immediate medical attention and special treatment needed:**  
Medical supervision for at least 48 hours.  
If necessary oxygen respiration treatment.  
Monitor circulation, possible shock treatment.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation.
- **Environmental precautions**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Methods and material for containment and cleaning up**  
Use limestone to neutralize and absorb spill.  
Send for recovery or disposal in suitable receptacles.
- **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:**  
Prevent formation of aerosols.  
Avoid splashes or spray in enclosed areas.  
Use only in well ventilated areas.

(Cont'd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

Trade name: EkoEtch

(Cont'd. of page 3)

- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store in corrosive resistant container with a resistant inner liner.  
Unsuitable material for receptacle: aluminium.  
Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**  
Store away from foodstuffs.  
Do not store together with alkalis (caustic solutions).  
Store away from metals.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

### · Control parameters

#### · Components with limit values that require monitoring at the workplace:

##### 7664-38-2 phosphoric acid

PEL (USA)	Long-term value: 1 mg/m <sup>3</sup>
REL (USA)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
TLV (USA)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
EL (Canada)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
EV (Canada)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
LMPE (Mexico)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>

##### 34590-94-8 (2-methoxymethylethoxy)propanol

PEL (USA)	Long-term value: 600 mg/m <sup>3</sup> , 100 ppm Skin
REL (USA)	Short-term value: 900 mg/m <sup>3</sup> , 150 ppm Long-term value: 600 mg/m <sup>3</sup> , 100 ppm Skin
TLV (USA)	Short-term value: 909 mg/m <sup>3</sup> , 150 ppm Long-term value: 606 mg/m <sup>3</sup> , 100 ppm Skin
EL (Canada)	Short-term value: 150 ppm Long-term value: 100 ppm Skin

(Cont'd. on page 5)

## Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 4)

EV (Canada)	Short-term value: 910 mg/m <sup>3</sup> , 150 ppm Long-term value: 605 mg/m <sup>3</sup> , 100 ppm
LMPE (Mexico)	Short-term value: 150 ppm Long-term value: 100 ppm PIEL

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:**

Not required under normal conditions of use.

Use suitable respiratory protective device in case of insufficient ventilation.

Use suitable respiratory protective device when aerosol or mist is formed.

For spills, respiratory protection may be advisable.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

Face protection

· **Body protection:** Acid resistant protective clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**

Form: Liquid

Color: Clear

· **Odor:** Mild

· **Odor threshold:** Not determined.

· **pH-value:** Acidic

(Cont'd. on page 6)

**Safety Data Sheet**

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 5)

· <b>Melting point/Melting range:</b>	Not determined.
· <b>Boiling point/Boiling range:</b>	>100 °C (>212 °F)
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Oxidizing properties:</b>	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density:</b>	
<b>Relative density:</b>	1.22
<b>Vapor density:</b>	Not determined.
<b>Evaporation rate:</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No relevant information available.

**10 Stability and reactivity**

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Toxic fumes may be released if heated above the decomposition point.  
Corrosive action on metals.  
Reacts with strong alkali.  
Reacts with metals forming hydrogen.
- **Conditions to avoid** Excessive heat.
- **Incompatible materials** Alkalis
- **Hazardous decomposition products**  
  
Under fire conditions only:  
Carbon monoxide and carbon dioxide

(Cont'd. on page 7)



## Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**Phosphorus oxides (e.g. P<sub>2</sub>O<sub>5</sub>)

(Cont'd. of page 6)

### 11 Toxicological information

**Information on toxicological effects**

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Strong caustic effect on skin and mucous membranes.
- **On the eye:** Strong caustic effect.
- **Sensitization:** Based on available data, the classification criteria are not met.

**IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

**NTP (National Toxicology Program):**

None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

**Probable route(s) of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

**Acute effects (acute toxicity, irritation and corrosivity):**

Causes severe skin burns and eye damage.  
May be harmful in contact with skin.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

### 12 Ecological information

**Toxicity**

- **Aquatic toxicity** The product contains materials that are harmful to the environment.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxic effects:**
- **Remark:** After neutralization a reduction of the harming action may be recognized

(Cont'd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name:** EkoEtch

(Cont'd. of page 7)

· **Additional ecological information**

· **General notes:**

Must not reach bodies of water or drainage ditch undiluted or unneutralized. Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. If the dilution of the use-level pH-value is considerably increased after use, 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 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.

Dilute concentrate with water and neutralize afterwards with suitable material (lime or chalk). The formed salts are inert and pose little hazard.

The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA**

UN1805

· **UN proper shipping name**

· **DOT**

Phosphoric acid solution

· **ADR, IMDG**

PHOSPHORIC ACID, SOLUTION

· **IATA**

Phosphoric acid, solution

· **Transport hazard class(es)**

· **DOT**



· **Class**

8 Corrosive substances

(Cont'd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 8)

· **Label** 8

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· **ADR**



· **Class** 8 (C1) Corrosive substances

· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances

· **Label** 8

· **Packing group**

· **DOT, ADR, IMDG, IATA** III

· **Environmental hazards**

· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances

· **Danger code (Kemler):** 80


· **EMS Number:** F-A,S-B

· **Segregation groups** Acids


· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**


· **DOT**

 Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

· **ADR**

 Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

· **IMDG**

 Limited Quantity for packages less than 30 kg gross and inner packagings less than 5 L each.

(Cont'd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 9)

· IATA



Limited Quantity for packages less than 30 kg gross and inner packagings less than 0.5 L each / 1 L net.

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

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

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

(Cont'd. on page 11)



## Safety Data Sheet

acc. to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 regulations

Printing date: May 02, 2017

Revision: May 02, 2017

**Trade name: EkoEtch**

(Cont'd. of page 10)

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** May 02, 2017 / -

· **Abbreviations and acronyms:**

ADR: 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

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bio-accumulable, Toxique

vPvB: very Persistent and very Bioaccumulative

NIOSH: l'Institut national de recherche sur la sécurité et la santé au travail / National Institute for Occupational Safety (États-Unis)

OSHA: Occupational Safety & Health Administration

Flam. Liq. 4: Flammable liquids – Category 4

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **Sources**

Website, European Chemicals Agency ([echa.europa.eu](http://echa.europa.eu))

Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))

Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://www.cas.org))

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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