

Safety Data Sheet
acc. to OSHA HCS

Printing date 01/07/2019

Reviewed on 01/07/2019

1 Identification

- **Product identifier**
- **Trade name: Glas hardener; contains halogenes**
- **Article number: Series 700-GL**
- **Application of the substance / the mixture** Additive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
DECO TECHnology Group Inc.
PRINTCOLOR SCREEN AG
TEL (714) 639-3326
FAX (714) 639-2261
- **Information department:** Product safety department
- **Emergency telephone number:** 800-535-5053

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

N-(3-(trimethoxysilyl)propyl)ethylenediamine

methanol

ethylenediamine

- **Hazard statements**

Harmful if inhaled.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

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· **Precautionary statements**

- Avoid breathing vapours.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing must not be allowed out of the workplace.
- Wear protective gloves / eye protection.
- In case of inadequate ventilation wear respiratory protection.
- If on skin: Wash with plenty of water.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a poison center/doctor.
- Specific treatment (see on this label).
- If skin irritation or rash occurs: Get medical advice/attention.
- If experiencing respiratory symptoms: Call a poison center/doctor.
- Wash contaminated clothing before reuse.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3
Fire = 1
Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

CAS: 1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	50-100%
CAS: 67-56-1	methanol	1-2.5%
CAS: 107-15-3	ethylenediamine	<0.5%

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

- Supply fresh air and to be sure call for a doctor.
- 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:** If symptoms persist consult doctor.

· **Information for doctor:**

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

- No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
- **Protective Action Criteria for Chemicals**

· PAC-1:

CAS: 1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	23 mg/m ³
CAS: 67-56-1	methanol	530 ppm
CAS: 107-15-3	ethylenediamine	0.88 ppm

· PAC-2:

CAS: 1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	250 mg/m ³
CAS: 67-56-1	methanol	2,100 ppm
CAS: 107-15-3	ethylenediamine	9.7 ppm

· PAC-3:

CAS: 1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	1,500 mg/m ³
CAS: 67-56-1	methanol	7200* ppm
CAS: 107-15-3	ethylenediamine	20 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **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:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

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· **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 remaining constituent has no known exposure limits.

CAS: 67-56-1 methanol

PEL	Long-term value: 260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

CAS: 107-15-3 ethylenediamine

PEL	Long-term value: 25 mg/m ³ , 10 ppm
REL	Long-term value: 25 mg/m ³ , 10 ppm
TLV	Long-term value: 25 mg/m ³ , 10 ppm Skin

· **Ingredients with biological limit values:**

CAS: 67-56-1 methanol

BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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· **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.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **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

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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 trough 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: Fluid
Color: According to product specification

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 259 °C (498.2 °F)

· **Flash point:** 136 °C (276.8 °F) (Abel Pensky)

· **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:** Not determined.

· **Density at 20 °C (68 °F):** 0.99 g/cm³ (8.26 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

VOC content: 2.0 %
22.4 g/l / 0.19 lb/gal

· **Other information** No further relevant information available.

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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:**

CAS: 67-56-1 methanol

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

- **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.

- **Sensitization:**

Sensitization possible through inhalation.
Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Irritant

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Harmful to aquatic organisms

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Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

• **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:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

• **Uncleaned packagings:**

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

14 Transport information

• **UN-Number**

• **DOT**

• **ADR, IMDG, IATA**

Void

UN3082

• **UN proper shipping name**

• **DOT**

• **ADR**

Void

Not restricted good <= 5 Kg/L according to SV 375
3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (N-(3-(trimethoxysilyl)propyl)
ethylenediamine)

• **IMDG**

Not restricted good <= 5 Kg/L according to 2.10.2.7
ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (N-(3-(trimethoxysilyl)propyl)
ethylenediamine), MARINE POLLUTANT

• **IATA**

Not restricted good <= 5 Kg/L according to SP A197
ENVIRONMENTALLY HAZARDOUS SUBSTANCE,
LIQUID, N.O.S. (N-(3-(trimethoxysilyl)propyl)
ethylenediamine)

• **Transport hazard class(es)**

• **DOT**

• **Class**

• **ADR**

Void



• **Class**

• **Label**

9 Miscellaneous dangerous substances and articles

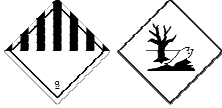
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· **IMDG, IATA**



· **Class** 9 Miscellaneous dangerous substances and articles
Not restricted good

· **Label** 9

· **Packing group** Void

· **DOT** III

· **ADR, IMDG, IATA** III

· **Environmental hazards:** Product contains environmentally hazardous substances:
N-(3-(trimethoxysilyl)propyl)ethylenediamine

· **Marine pollutant:** Yes

· **Special marking (ADR):** Symbol (fish and tree)

· **Special marking (IATA):** Symbol (fish and tree)

· **Special precautions for user** Warning: Miscellaneous dangerous substances and articles

· **Danger code (Kemler):** 90

· **EMS Number:** F-A,S-F

· **Stowage Category** A

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

· **Transport/Additional information:**

· **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 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (N-(3-(TRIMETHOXYSILYL)PROPYL)ETHYLENEDIAMINE), 9, III

15 Regulatory information

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

· **Sara**

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

CAS: 107-15-3 | ethylenediamine

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

CAS: 67-56-1 | methanol

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

All ingredients are listed.

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· **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:**

CAS: 67-56-1 | methanol

· **Carcinogenity categories**

· **EPA (Environmental Protection Agency)**

CAS: 107-15-3 | ethylenediamine

D

· **TLV (Threshold Limit Value established by ACGIH)**

CAS: 107-15-3 | ethylenediamine

A4

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

None of the ingredients is listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

N-(3-(trimethoxysilyl)propyl)ethylenediamine
methanol
ethylenediamine

· **Hazard statements**

Harmful if inhaled.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

· **Precautionary statements**

Avoid breathing vapours.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves / eye protection.
In case of inadequate ventilation wear respiratory protection.
If on skin: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If experiencing respiratory symptoms: Call a poison center/doctor.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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

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.

· **Department issuing SDS:** Product safety department

· **Contact:** hse@printcolor.ch

· **Date of preparation / last revision** 01/07/2019 / 2

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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)

VOC: Volatile Organic Compounds (USA, EU)

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

BEI: Biological Exposure Limit

Acute Tox. 4: Acute toxicity – Category 4

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

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1