

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:** EkoPoly Premium Catalyst
- **Other means of identification:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Catalyst
- **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**
Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms:**



GHS07 GHS08

- **Signal word:** Danger
- **Hazard statements:**
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

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Precautionary statements:

- P261 Avoid breathing mist, vapors, or spray.
- P264 Wash thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection.
- P284 In case of inadequate ventilation wear respiratory protection.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- 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.
- P312 Call a POISON CENTER/doctor if you feel unwell.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- 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:

28182-81-2	Hexane, 1,6-diisocyanato-, homopolymer ⚠ Acute Tox. 4, H332; STOT SE 3, H335	>60%
666723-27-9	Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	10-25%
98-94-2	cyclohexyldimethylamine 🔥 Flam. Liq. 3, H226 ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318	<2.5%
822-06-0	hexamethylene-di-isocyanate ⚠ Acute Tox. 3, H311; Acute Tox. 1, H330 ⚠ Resp. Sens. 1, H334 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	<2.5%

Additional information: For the wording of the listed Hazard Statements refer to section 16.

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4 First-aid measures

Description of first aid measures**General information:**

Do not leave affected persons unattended.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Take affected persons out into the fresh air.

After inhalation:

Supply fresh air and to be sure to call for a doctor.

Provide oxygen treatment if affected person has difficulty breathing.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After skin contact:

Immediately remove any clothing soiled by the product.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact:

Protect unharmed eye.

Immediately remove contact lenses if possible.

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.

A person vomiting while lying on their back should be turned onto their side.

Most important symptoms and effects, both acute and delayed:

Asthma attacks

Irritating to eyes, respiratory system and skin.

Breathing difficulty

Coughing

Allergic reactions

Dizziness

Cyanosis

Fever

Gastric or intestinal disorders when ingested.

Nausea in case of ingestion.

Disorientation

Unconsciousness

Danger:

May cause sensitisation by inhalation and skin contact.

Danger of convulsion.

Danger of impaired breathing.

Danger of pulmonary edema.

Danger of cerebral edema.

Harmful if inhaled.

May cause respiratory irritation.

Indication of any immediate medical attention and special treatment needed:

If swallowed, gastric irrigation with added, activated carbon.

Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.

Treat skin and mucous membrane with antihistamine and corticoid preparations.

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Monitor circulation, possible shock treatment.

If blue coloring appears (lips, ear-lobes, finger-nails), give oxygen treatment as quickly as possible.

Medical supervision for at least 48 hours.

Later observation for pneumonia and pulmonary edema.

If necessary oxygen respiration treatment.

Contains Hexane, 1,6-diisocyanato-, homopolymer, Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate, hexamethylene-di-isocyanate. May produce an allergic reaction.

In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

Water fog / haze

Foam

Fire-extinguishing powder

Carbon dioxide

- **For safety reasons unsuitable extinguishing agents:** None.

- **Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Additional information:** Cool endangered receptacles with water spray.

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.

Isolate area and prevent access.

Protect from heat.

- **Environmental precautions**

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to penetrate the ground/soil.

- **Methods and material for containment and cleaning up**

Notify management. Control source of the leak. To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri®, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide escape.

Additional Spill Procedures/Neutralization: Neutralization solutions:

(1) Colorimetric Laboratories Inc. (CLI) decontamination solution.

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(2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10) and 5% n-propanol.

(3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).

(4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

· **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.

Keep receptacles tightly sealed.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.

Avoid splashes or spray in enclosed areas.

Use only in well ventilated areas.

Keep out of reach of children.

· **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 only in the original receptacle.

Avoid storage near extreme heat, ignition sources or open flame.

Store at 77 °F / 25 °C.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with acids.

Store away from oxidizing agents.

Protect from humidity and water.

· **Further information about storage conditions:**

Keep containers tightly sealed.

Store in dry conditions.

Store receptacle in a well ventilated area.

· **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:**

98-94-2 cyclohexyldimethylamine

EV (Canada) | Short-term value: 26 mg/m³, 5 ppm

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822-06-0 hexamethylene-di-isocyanate

REL (USA)	Long-term value: 0.035 mg/m ³ , 0.005 ppm Ceiling limit value: 0.14* mg/m ³ , 0.02* ppm *10-min
TLV (USA)	Long-term value: 0.034 mg/m ³ , 0.005 ppm BEI
EL (Canada)	Long-term value: 0.005 ppm Ceiling limit value: 0.01 ppm S
EV (Canada)	Long-term value: 0.005 ppm Ceiling limit value: 0.02 ppm
LMPE (Mexico)	Long-term value: 0.005 ppm

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
 Personal protective equipment must be selected to prevent inhalation of vapors and contact with skin and eyes. At a bare minimum, safety glasses, gloves, apron, and combination particle/vapor respirator should be worn. In some cases, supplied air, full body suits and boots will be needed.
 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:**



Combined Organic Vapor and Particulate Respirator is recommended for use during all processing activities.

- **Protection of hands:**



Protective gloves

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

- **For the permanent contact gloves made of the following materials are suitable:**

Nitrile rubber, NBR
 Butyl rubber, BR
 Neoprene gloves

- **Eye protection:**



Safety glasses

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· **Body protection:**



Boots

Apron

Impervious protective clothing

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

No relevant information available.

· **Risk management measures** No relevant information available.

9 Physical and chemical properties

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

· **Appearance:**

Form: Liquid
Color: Light yellow

· **Odor:** Light

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** Not determined.

· **Flash point:** 185 °C (365 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits**

Lower: Not determined.
Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density:**

Relative density: 1.15
Vapor density: Not determined.
Evaporation rate: Not determined.

· **Solubility in / Miscibility with**

Water: Insoluble.

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

· **Viscosity**

Dynamic at 20 °C (68 °F): 800 mPas
Kinematic: Not determined.

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Other information

No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:** Avoid temperatures above 350 °F / 177 °C.
- **Possibility of hazardous reactions**
 - Reacts with humid air.
 - Reacts with water.
 - Reacts with oxidizing agents.
 - Reacts with peroxides and other radical forming substances.
 - Toxic fumes may be released if heated above the decomposition point.
 - Contact with acids releases toxic gases.
 - Reacts with alcohols, amines, aqueous acids and alkalis.
 - Corrodes copper and brass.
- **Conditions to avoid** Excessive heat.
- **Incompatible materials** Contact with acids liberates toxic gas.
- **Hazardous decomposition products**
 - Under fire conditions only:
 - Carbon monoxide and carbon dioxide
 - Isocyanate
 - Nitrogen oxides (NOx)
 - Irritant gases/vapors
 - Poisonous gases/vapors
 - Hydrogen cyanide (prussic acid)

11 Toxicological information

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

LD/LC50 values that are relevant for classification:**28182-81-2 Hexane, 1,6-diisocyanato-, homopolymer**

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)

98-94-2 cyclohexyldimethylamine

Oral	LD50	272 mg/kg (rat)
Dermal	LD50	>400 mg/kg (rat)
Inhalative	LC50/4h	4.45 mg/l (rat)

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	959 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

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Inhalative	LC50/4h	124 mg/m3 (rat)
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- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **Sensitization:** May cause sensitisation by inhalation and skin contact.

· **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):**

- Harmful if inhaled.
- Irritating to eyes, respiratory system and skin.
- **Repeated dose toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.
- **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:** May cause respiratory irritation.
- **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** Not easily biodegradable
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.

· **Additional ecological information**

· **General notes:**

Do not allow product to reach ground water, water course or sewage system.
 Due to available data on eliminability/decomposition and bioaccumulation potential prolonged term damage of the environment can not be excluded.
 Due to the consistence and the low watersolubility of the product a bioavailability is not probable.

· **Results of PBT and vPvB assessment**

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

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· **Other adverse effects** No relevant information available.

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13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations. 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.

14 Transport information

· **UN-Number**

· DOT, ADR, IMDG, IATA Not regulated.

· **UN proper shipping name**

· DOT, ADR, IMDG, IATA Not regulated.

· **Transport hazard class(es)**

· DOT, ADR, IMDG, IATA
· Class Not regulated.

· **Packing group**

· DOT, ADR, IMDG, IATA Not regulated.

· **Environmental hazards**

· Marine pollutant: No

· **Special precautions for user**

Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

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.

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

None of the ingredients are listed.

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

822-06-0 | hexamethylene-di-isocyanate

· **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.

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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. 3: Flammable liquids – Category 3

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Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 1: Acute toxicity – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (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., Klaassen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

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