

# Safety Data Sheet

according to 1907/2006/EC (REACH), 1272/2008/EC (CLP), and  
OSHA GHS

Printing date 24.04.2015

Revision: 24.04.2015

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name: X-Protect Concrete Part B**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Hardening agent/ Curing agent
- **1.3 Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
xGen, LLC  
118 Rochester Drive  
Louisville, KY 40214  
Phone: (502) 364-6050
- **1.4 Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924, +1 (813)248-0585

## SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



Acute Tox. 4 H332 Harmful if inhaled.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R20: Harmful by inhalation.



Xi; Irritant

R37: Irritating to respiratory system.



Xi; Sensitising

R43: May cause sensitisation by skin contact.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

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- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS07

- **Signal word** Warning

- **Hazard-determining components of labelling:**

Hexane, 1,6-diisocyanato-, homopolymer  
HDI oligomers, isocyanurate  
hexamethylene-di-isocyanate

- **Hazard statements**

H332 Harmful if inhaled.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.

- **Precautionary statements**

P261 Avoid breathing mist/vapours/spray.  
P280 Wear protective gloves / eye protection.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

- **Additional information:**

EUH204 Contains isocyanates. May produce an allergic reaction.

- **Hazard description:**

- **WHMIS-symbols:**

D2B - Toxic material causing other toxic effects



- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 1  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 1  
Reactivity = 0

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### · HMIS Long Term Health Hazard Substances

None of the ingredients are listed.

### · 2.3 Other hazards

#### · Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

### · 3.2 Mixtures

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

#### · Dangerous components:

CAS: 28182-81-2 NLP: 500-060-2	Hexane, 1,6-diisocyanato-, homopolymer ☒ Xn R20; ☒ Xi R37; ☒ Xi R43 ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 28182-81-2 EC number: 931-274-8	HDI oligomers, isocyanurate ☒ Xn R20; ☒ Xi R37; ☒ Xi R43 ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	10-25%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

#### · Notable Trace Components (≤ 0,1% w/w)

CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1	hexamethylene-di-isocyanate ☠ T R23; ☒ Xn R22; ☒ Xn R42/43; ☒ Xi R36/37/38 ⚠ Acute Tox. 1, H330 ⚠ Resp. Sens. 1, H334 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335
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## SECTION 4: First aid measures

### · 4.1 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.

Take affected persons out into the fresh air.

#### · After inhalation:

Supply fresh air; consult doctor in case of complaints.

Provide oxygen treatment if affected person has difficulty breathing.

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

#### · After skin contact:

Do not pull solidified product off the skin.

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

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- **After eye contact:**  
Immediately remove contact lenses if possible.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**  
Asthma attacks  
Slight irritant effect on eyes.  
May cause respiratory irritation.  
Slight irritant effect on skin and mucous membranes.  
Gastric or intestinal disorders when ingested.  
Coughing  
Breathing difficulty  
Allergic reactions
- **Hazards**  
Harmful if inhaled.  
Danger of impaired breathing.  
Danger of disturbed cardiac rhythm.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
Contains isocyanates. May produce an allergic reaction.  
If necessary oxygen respiration treatment.  
Monitor circulation, possible shock treatment.  
Treat skin and mucous membrane with antihistamine and corticoid preparations.  
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.  
Contains Hexane, 1,6-diisocyanato-, homopolymer, HDI oligomers, isocyanurate. May produce an allergic reaction.

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** None.
- **5.2 Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.
- **Additional information** Evacuate area and fight fire from from the upwind side.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Use respiratory protective device against the effects of fumes/dust/aerosol.  
Keep people at a distance and stay on the windward side.

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Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

· **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Pick up mechanically.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **6.4 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.

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Avoid splashes or spray in enclosed areas.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Keep receptacles tightly sealed.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store only in the original receptacle.

Provide ventilation for receptacles.

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

Protect from humidity and water.

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

Do not store together with alkalis (caustic solutions).

Store away from oxidising agents.

Store away from foodstuffs.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

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- **PNECs** No further relevant information available.
- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

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.

- **Respiratory protection:**



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.

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:**

Contact lenses should not be worn.



Safety glasses

- **Body protection:**

Protective work clothing

Full head, face and neck protection

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

No further relevant information available.

- **Risk management measures**

See Section 7 for additional information.

No further relevant information available.

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## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form: Liquid  
Colour: Light yellow

· Odour: Mild

· Odour threshold: Not determined.

· pH-value: Not determined.

#### · Change in condition

Melting point/Melting range: Not Determined.

Boiling point/Boiling range: Undetermined.

· Flash point: 338 ° F / 170 ° C (640 ° F / 338 ° F)

· Flammability (solid, gaseous): Not applicable.

· Auto/Self-ignition temperature: Not determined.

· Decomposition temperature: Not determined.

· Self-igniting: Product is not self-igniting.

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

#### · Explosion limits:

Lower: Not determined.

Upper: Not determined.

· Vapour pressure: Not determined.

· Density at 20 °C (68 °F): 1,15 g/cm<sup>3</sup> (9,597 lbs/gal)

· Relative density: Not determined.

· Vapour 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.

#### · Solvent content:

VOC (US EPA Method 24) 0,219 g/L

· 9.2 Other information: No further relevant information available.

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## SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions**  
 Reacts with water.  
 Reacts with amines.  
 Reacts with strong alkali.  
 Reacts with alcohols.  
 Exothermic polymerisation.  
 Toxic fumes may be released if heated above the decomposition point.  
 Reacts with humid air.
- **10.4 Conditions to avoid**  
 Store away from oxidising agents.  
 Moisture.  
 Keep away from heat and direct sunlight.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
 Carbon monoxide and carbon dioxide  
 Nitrogen oxides  
 Isocyanate  
 Hydrogen cyanide (prussic acid)

## SECTION 11: Toxicological information

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

· **LD/LC50 values relevant for classification:**

### 28182-81-2 Hexane, 1,6-diisocyanato-, homopolymer

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

### 28182-81-2 HDI oligomers, isocyanurate

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

- **Primary irritant effect:**
- **on the skin:** Slight irritant effect on skin and mucous membranes.
- **on the eye:** Slight irritant effect on eyes.
- **Sensitisation:**  
 Sensitisation possible through skin contact.  
 Sensitising effect through inhalation is possible by prolonged exposure.

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· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

Danger through skin adsorption.

Toxic and/or corrosive effects may be delayed up to 12 hours.

· **Acute effects (acute toxicity, irritation and corrosivity):** Irritating to respiratory system.

· **Repeated dose toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.

## SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (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.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

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

Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

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. Residual materials should be treated as hazardous.

· **Uncleaned packaging:**

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

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## SECTION 14: Transport information

- 14.1 UN-Number
  - DOT, ADR, ADN, IMDG, IATA
  - 14.2 UN proper shipping name
  - DOT, ADR, ADN, IMDG, IATA
  - 14.3 Transport hazard class(es)
  - DOT, ADR, ADN, IMDG, IATA
  - Class
  - 14.4 Packing group
  - DOT, ADR, IMDG, IATA
  - 14.5 Environmental hazards:
  - Marine pollutant:
  - 14.6 Special precautions for user
  - 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - UN "Model Regulation":
- Not Regulated
- Not Regulated
- Not Regulated
- Not Regulated
- Not Regulated
- Not applicable.
- Not applicable.
- 

## SECTION 15: Regulatory information

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

### · 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 is 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.

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· <b>IARC (International Agency for Research on Cancer)</b>
None of the ingredients are listed.

· <b>TLV (Threshold Limit Value established by ACGIH)</b>
None of the ingredients are listed.

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
None of the ingredients are listed.

· <b>Canada</b>
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· <b>Canadian Domestic Substances List (DSL)</b>
All ingredients are listed.

· <b>Canadian Ingredient Disclosure list (limit 0.1%)</b>
None of the ingredients are listed.

· <b>Canadian Ingredient Disclosure list (limit 1%)</b>
None of the ingredients are listed.

· <b>Other regulations, limitations and prohibitive regulations</b>
This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b>
None of the ingredients are listed.

· <b>15.2 Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.
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## SECTION 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.

· <b>Relevant phrases</b>
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H317 May cause an allergic skin reaction.
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H332 Harmful if inhaled.
--------------------------

H335 May cause respiratory irritation.
--

R20 Harmful by inhalation.
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R37 Irritating to respiratory system.
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R43 May cause sensitisation by skin contact.
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· <b>Abbreviations and acronyms:</b>
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ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
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IMDG: International Maritime Code for Dangerous Goods
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DOT: US Department of Transportation
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IATA: International Air Transport Association
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GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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ACGIH: American Conference of Governmental Industrial Hygienists
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EINECS: European Inventory of Existing Commercial Chemical Substances
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ELINCS: European List of Notified Chemical Substances
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CAS: Chemical Abstracts Service (division of the American Chemical Society)
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NFPA: National Fire Protection Association (USA)
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HMIS: Hazardous Materials Identification System (USA)
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WHMIS: Workplace Hazardous Materials Information System (Canada)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

**Sources**

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ChemTel Inc.  
1305 North Florida Avenue  
Tampa, Florida USA 33602-2902  
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573  
Website: [www.chemtelinc.com](http://www.chemtelinc.com)