

1 Identification

- **Product identifier**
 - *Product number* TXW08
 - *Trade name:* **HARDENER FOR WB AQUATECH**
 - *Application of the substance / the mixture* For professional use
- **Details of the supplier of the safety data sheet**
 - *Manufacturer/Supplier:*
IVM Chemicals Srl
Viale della Stazione 3 -27020 Parona (PV)Italy -Tel +39 038425441
 - *Information department:*
Environmental Health and safety office
hseoffice@ivmchemicals.com
 - *Emergency telephone number:*
ChemTel Expert Assistance Hotline/SDS Fax Access by dialing 1-800-255-3924 or for International +1-813-248-0585.

2 Hazard(s) identification

- **Classification of the substance or mixture**

Flammable Liquids 4	H227 Combustible liquid. Flam. Liq. 4
Acute Toxicity - Inhalation 4	H332 Harmful if inhaled.
Sensitization - Skin 1	H317 May cause an allergic skin reaction.
Specific Target Organ Toxicity - Single Exposure 3H335	May cause respiratory irritation.
Aquatic Acute 3	H402 Harmful to aquatic life.
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects.

- **Label elements**

- *GHS label elements*

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

 - *Hazard pictograms*



GHS07

- *Signal word* Warning
- *Hazard-determining components of labeling:*
aliphatic polyisocyanate
- *Hazard statements*
H227 Combustible liquid. Flam. Liq. 4
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.
- *Precautionary statements*
P210 Keep away from flames and hot surfaces. . No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P405 Store locked up.

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

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 0
 Fire = 2
 Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1
 Fire = 2
 Reactivity = 0

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture: consisting of the following components.

· Dangerous components:

160994-68-3	aliphatic polyisocyanate ⚠ Acute Toxicity - Inhalation 4, H332; Sensitization - Skin 1, H317; Specific Target Organ Toxicity - Single Exposure 3, H335 Aquatic Acute 3, H402; Aquatic Chronic 3, H412	50-74.99%
822-06-0	hexamethylene diisocyanate ⚠ Acute Toxicity - Inhalation 1, H330 ⚠ Sensitization - Respiratory 1, H334 ⚠ Acute Toxicity - Oral 4, H302; Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1, H317; Specific Target Organ Toxicity - Single Exposure 3, H335	<0.1%

4 First-aid measures

· Description of first aid measures

· General information:

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

personal protective equipment for first aid responders is recommended. (please see section 8)

· 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.

· After swallowing: Do not induce vomiting; immediately call for medical help.

· Information for doctor:

· Most important symptoms and effects, both acute and delayed

Allergic reactions

For symptoms and effects caused by substances, refer to Section 11.

· Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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5 Fire-fighting measures

- **Extinguishing media**

- *Suitable extinguishing agents:*

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- *For safety reasons unsuitable extinguishing agents:*

Do not use a jet water stream as it may scatter and spread fire.

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

In case of fire, the following can be released:

Nitrogen oxides (NO_x)

Carbon monoxide (CO)

- **Advice for firefighters**

Cool by spraying with water the containers to prevent product decomposition and the development of substances potentially hazardous for health and also, in the case of closed containers exposed to flames to prevent explosions.

- *Protective equipment:*

Hardhat with visor, fireproof clothing, suitable gloves and if necessary respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

- **Environmental precautions:**

Do not allow product to reach sewage system or any water course.

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 Section 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:**

None of the ingredients is listed.

- **PAC-2:**

None of the ingredients is listed.

- **PAC-3:**

None of the ingredients is listed.

7 Handling and storage

- **Handling:**

- *Precautions for safe handling*

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

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- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
Observe the label precautions, the expiration date for the use, if not indicated, is from delivery date of goods.
In cases where there is no reported expiration date, it means that the product must be used within 8 months.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** Keep receptacle tightly sealed.
 - **Specific end use(s)** Those typical of the product and the instructions in the data sheet if required.

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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

822-06-0 hexamethylene diisocyanate

REL	Long-term value: 0.035 mg/m , 0.005 ppm Ceiling limit value: 0.14* mg/m , 0.02* ppm *10-min
TLV	Long-term value: 0.005 ppm BEI

· Ingredients with biological limit values:

822-06-0 hexamethylene diisocyanate

BEI	15 g/g creatinine Medium: urine Time: end of shift Parameter: 1.6-Hexamethylene diamine with hydrolysis (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.
 - **Breathing equipment:**
Short term filter device:



Filter A

Suitable respiratory protective device recommended.

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- **Protection of hands:**



Protective gloves

Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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

- **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:** Goggles recommended during refilling.

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:**

Mixture is non-polar/aprotic.
Range: 7 - 9

- **Change in condition**

- **Melting point/Melting range:**

Undetermined.

- **Boiling point/Boiling range:**

175 °C (347 °F)

- **Flash point:**

65 °C (149 °F)

- **Flammability (solid, gaseous):**

Not applicable.

- **Ignition temperature:**

270 °C (518 °F)

- **Decomposition temperature:**

Not determined.

- **Auto igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Not determined.

- **Explosion limits:**

- **Lower:**

0.9 Vol %

- **Upper:**

0.0 Vol %

- **Vapor pressure at 20 °C (68 °F):**

0.7 hPa (0.5 mm Hg)

- **Density (+/- 0,03) at 20 °C (68 °F):**

1.051 g/cm (8.771 lbs/gal)

- **Relative density**

Not determined.

- **Vapor density**

Not determined.

- **Evaporation rate**

Not determined.

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· Solubility in / Miscibility with	
· Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
· Dynamic:	Not determined.
· Kinematic at 20 °C (68 °F):	40 s (ISO 4 mm)
· Oxidising properties:	N.A.
· Solvent content:	
· VOC content:	30.06 % 316.0 g/l / 2.64 lb/gal
· Solids content: 69.9 %	
· Other information (HAPS)	
822-06-0 hexamethylene diisocyanate	<0.1%
· Other information No further relevant information available.	

10 Stability and reactivity

- **Reactivity** typical of the product as indicated in the data sheet
- **Chemical stability** The product is stable in normal conditions of storage and use recommended
 - **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Acids, alkalis and oxidizing agents
- **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:**

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	15.7 mg/l
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160994-68-3 aliphatic polyisocyanate

Oral	LD50	2,001 mg/kg (mouse)
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822-06-0 hexamethylene diisocyanate

Oral	LD50	738 mg/kg (mouse)
Dermal	LD50	7,001 mg/kg (rabbit)
Inhalative	LC50/4 h	0.124 mg/l (mouse)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

Harmful

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Irritant
 Harmful if inhaled.
 May cause an allergic skin reaction.
 May cause respiratory irritation.
 Contains isocyanates. May produce an allergic reaction.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer - Cl. 1 and 2)**

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.

· **Sensitisation**

Monomers / polymers isocyanate

Particular characteristics / effects; prolonged exposure may irritate the eyes, nose, throat and respiratory tract.

Isocyanate exposure may result in the delayed appearance of respiratory disorders, cough or asthma. Sensitive individuals may show exposure symptoms to isocyanates below workplace TLV values. Prolonged skin contact may result cause irritation and dehydration.

12 Ecological information

· **Toxicity** Harmful to aquatic life with long lasting effects.

· **Aquatic toxicity:**

822-06-0 hexamethylene diisocyanate

EC50	77.5 mg/l (algae) (72 h)
	89.2 mg/l (daphnia) (48 h)
LC50 (96h)	82.9 mg/l (Fish)

· **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:**

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.

Harmful to aquatic organisms

· **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.

Hand over to hazardous waste disposers.

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Dispose of contents and container in accordance with local state and federal regulations.

- **Uncleaned packagings:**
- *Recommendation: Disposal must be made according to official regulations.*

14 Transport information

- **UN-Number**
 - DOT, ADN, IMDG, IATA Not applicable
 - Note Check viscosity and flash point at section 9
- **UN proper shipping name**
 - DOT, ADN, IMDG, IATA Not applicable
- **Transport hazard class(es)**
 - DOT, ADR, ADN, IMDG, IATA
 - Class Not applicable
- **Packing group**
 - DOT, IMDG, IATA Not applicable
- **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.
- **UN "Model Regulation":** Not applicable

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 Requirements of Federal Register
- **Various regulations**
 - SARA

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

None of the ingredients is listed.

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

822-06-0	hexamethylene diisocyanate	<0.1%
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

822-06-0	hexamethylene diisocyanate
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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.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **National regulations:**

The product is subject to be labeled according with the prevailing version of the regulations on hazardous substances.

· **Other regulations, limitations and prohibitive regulations**

· **Export notification paragraph 12 (b) of the US Toxic Substance Control Act 15 U.S.C.**

aliphatic polyisocyanate

· **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:** IVM Chemicals Srl

· **Contact:** See emergency phone

· **Date of preparation / last revision** 09/14/2022 / 100

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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

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

Flammable Liquids 4: Flammable liquids . Category 4

Acute Toxicity - Inhalation 1: Acute toxicity . Category 1

Acute Toxicity - Inhalation 4: Acute toxicity . Category 4

Skin Irritation 2: Skin corrosion/irritation . Category 2

Eye Irritation 2A: Serious eye damage/eye irritation . Category 2A

Sensitization - Respiratory 1: Respiratory sensitisation . Category 1

Sensitization - Skin 1: Skin sensitisation . Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) . Category 3

Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard . Category 3

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard . Category 3

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· *Sources*

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL and following amendments

Agency ECHA web site

INRS Fiche Toxicologique

IARC International agency for research on cancer

· * *Data compared to the previous version altered.*

US