

Safety Data Sheet

Hardener for waterbased products





Safety Data Sheet dated 5/10/2017, version 2

1. IDENTIFICATION

Product identifier
Mixture identification:
Trade name: Hardener for waterbased products
Other means of identification:
Trade code: 6CWN100
Recommended use of the chemical and restrictions on use
Recommended use: Auxiliary for surface coating
Restrictions on use:

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party
Company:
Sirca S.p.A.
Address:
Viale Roma, 85
35010 S. Dono di Massanzago (PD) - ITALY
Tel. +39 0499322311
Distributed by:
GEMINI INDUSTRIES, INC.
2300 Holloway Drive
El Reno, OK 73036
USA
Tel. 1-800-262-5710
Fax 1-405-262-9310
www.gemini-coatings.com
Competent person responsible for the safety data sheet:
safety@sirca.it
Emergency phone number
For Hazardous Materials [or Dangerous Goods] Incident
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
1-800-424-9300 / +1 703-527-3887.

2. HAZARD(S) IDENTIFICATION

Classification of the chemical
Warning, Flam. Liq. 4, Combustible liquid.
 Warning, Acute Tox. 4, Harmful if inhaled.
 Danger, Resp. Sens. 1, May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 Warning, Skin Sens. 1, May cause an allergic skin reaction.
 Warning, STOT SE 3, May cause respiratory irritation.
Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

Label elements
Hazard pictograms:



Danger

Hazard statements:
H227 Combustible liquid.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements:
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of water and soap.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P304+P341 IF INHALED: If breathing is difficult, 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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor/...
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use a CO₂, Foam, Chemical powders for extinction.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Hazards not otherwise classified identified during the classification process:

None

Ingredient(s) with unknown acute toxicity:

None.

Additional classification information

NFPA rating:



HMIS rating:

HEALTH	*	2
FLAMMABILITY		2
PHYSICAL HAZARD		1
PERSONAL PROTECTION		

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

>= 25% - < 48% Alyphatic polyisocyanate

CAS: 666723-27-9

⚠ A.1/4/Inhal Acute Tox. 4 H332

⚠ A.4.2/1 Skin Sens. 1 H317

⚠ A.8/3 STOT SE 3 H335

US-HAE/C3 Aquatic Chronic 3 H412

>= 25% - < 48% Hexamethylene diisocyanate, oligomers

REACH No.: 01-2119488934-20-xxxx, CAS: 28182-81-2

⚠ A.1/4/Inhal Acute Tox. 4 H332

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 A.8/3 STOT SE 3 H335

 A.4.2/1 Skin Sens. 1 H317

$\geq 0.2\%$ - $< 0.25\%$ hexamethylene-di-isocyanate

REACH No.: 01-2119457571-37-xxxx, Index number: 615-011-00-1, CAS: 822-06-0, EC: 212-485-8


 A.3/2A Eye Irrit. 2A H319

 A.8/3 STOT SE 3 H335

 A.2/2 Skin Irrit. 2 H315

 A.4.1/1 Resp. Sens. 1 H334

 A.4.2/1 Skin Sens. 1 H317

 A.1/3/Inhal Acute Tox. 3 H331

4. FIRST-AID MEASURES

Description of necessary measures

In case of skin contact:

Immediately take off all contaminated clothing.
Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.
In case of inhalation, consult a doctor immediately and show him packing or label.

Most important symptoms/effects, acute and delayed

None

Indication of immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

In case of fire: Use a CO₂, Foam, Chemical powders for extinction.

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

Hazardous combustion products:

None

Explosive properties:

N.A.

Oxidizing properties:

N.A.

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Wear personal protection equipment.
Remove all sources of ignition.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Remove persons to safety.
Use appropriate respiratory protection.
See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up

Wash with plenty of water.

7. HANDLING AND STORAGE



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Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Do not use on extensive surface areas in premises where there are occupants.
Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.
Storage temperature:
Store at ambient temperature.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

hexamethylene-di-isocyanate - CAS: 822-06-0
(OEL (IT)) - TWA: 0.005 ppm
ACGIH - TWA(8h): 0.005 ppm - Notes: URT irr, resp sens

DNEL Exposure Limit Values

hexamethylene-di-isocyanate - CAS: 822-06-0
Worker Industry: 0.07 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 0.035 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 0.035 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

PNEC Exposure Limit Values

hexamethylene-di-isocyanate - CAS: 822-06-0
Target: Marine water - Value: 0.00774 mg/l
Target: Fresh Water - Value: 0.0774 mg/l
Target: Freshwater sediments - Value: 0.01334 mg/kg - Notes:: Dry weight
Target: Marine water sediments - Value: 0.001334 mg/kg - Notes:: Dry weight
Target: Soil (agricultural) - Value: 0.0026 mg/kg - Notes:: Dry weight
Target: Microorganisms in sewage treatments - Value: 8.42 mg/l

Appropriate engineering controls:

None

Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use respiratory protection where ventilation is insufficient or exposure is prolonged.
Use adequate protective respiratory equipment.

Thermal Hazards:

None

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	liquid
Odour:	characteristic
Odour threshold:	N.A.
pH:	N.A.
Melting point / freezing point:	< 1° C
Initial boiling point and boiling range:	> 55° C
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	other >=55°C (>= 131°F)
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	1.1100 Kg/l a 20°C
Solubility in water:	N.A.
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	> 250° C



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Decomposition temperature:	N.A.
Viscosity (typical value):	67.00 " Din cup # 4
Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

10. STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions

Chemical stability
Stable under normal conditions

Possibility of hazardous reactions
No dangerous reaction is stored and used appropriately.

Conditions to avoid
Stable under normal conditions.

Incompatible materials
None in particular.

Hazardous decomposition products
None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Toxicological information of the product:
N.A.

Toxicological information of the main substances found in the product:

Alyphatic polyisocyanate - CAS: 666723-27-9

a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg - Notes: Method: OECD TG 403
Test: LC50 - Route: Inhalation - Species: Rat Female = 0.39 mg/l - Duration: 4h

b) skin corrosion/irritation:
Test: Skin Irritant - Species: Rabbit Negative

c) serious eye damage/irritation:
Test: Eye Irritant - Species: Rabbit Positive

d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Mouse Positive
Test: Inhalation Sensitization Negative

e) germ cell mutagenicity:
Test: Genotoxicity Negative

Hexamethylene diisocyanate, oligomers - CAS: 28182-81-2

a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat Female > 2500 mg/kg - Notes: Method: OECD TG 423
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Notes: Method: OECD TG 402
Test: LC50 - Route: Inhalation Mist - Species: Rat Female = 390 mg/m3 - Duration: 4h - Notes: Method: OECD 403

hexamethylene-di-isocyanate - CAS: 822-06-0

a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 746 mg/kg - Notes: Method: OECD TG 401
Test: LD50 - Route: Skin - Species: Rabbit > 7000 mg/kg - Notes: Method: OECD TG 402
Test: LC50 - Route: Inhalation - Species: Rat = 0.124 mg/l - Duration: 4h - Notes: Method: OECD TG 403 - Conc. del vapore saturo di 1,6-HDI a 25°C 0,095 mg/l
Test: NOAEL - Route: Inhalation - Species: Rat 0.035 mg/m3 - Duration: 6h - Notes: Method OECD linee guide 453
Test: LOAEL - Route: Inhalation - Species: Rat 0.175 mg/m3 - Duration: 6h - Notes: Method OECD linee guide 453

Substance(s) listed on the NTP report on Carcinogens:
None.

Substance(s) listed on the IARC Monographs:
None.

Substance(s) listed as OSHA Carcinogen(s):
hexamethylene-di-isocyanate.

Substance(s) listed as NIOSH Carcinogen(s):
None.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Adopt good working practices, so that the product is not released into the environment.
Alyphatic polyisocyanate - CAS: 666723-27-9

a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 35.2 mg/l - Duration h: 96

Persistence and degradability



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N.A.
Bioaccumulative potential
N.A.
Mobility in soil
N.A.
Other adverse effects
None

13. DISPOSAL CONSIDERATIONS

Waste treatment and disposal methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

14. TRANSPORT INFORMATION

UN number
Not classified as dangerous within the meaning of transport regulations.
UN proper shipping name
N.A.
Transport hazard class(es)
N.A.
Packing group
N.A.
Environmental hazards
ADR-Environmental pollutant: No
IMDG-Marine pollutant: No
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)
No
Special precautions
N.A.

15. REGULATORY INFORMATION

USA - Federal regulations
TSCA - Toxic Substances Control Act
TSCA inventory: all the components are listed on the TSCA inventory.
TSCA listed substances:
None.
SARA - Superfund Amendments and Reauthorization Act
Section 302 – Extremely Hazardous Substances: no substances listed.
Section 304 – Hazardous substances: no substances listed.
Section 313 – Toxic chemical list: hexamethylene-di-isocyanate.
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
Substance(s) listed under CERCLA: hexamethylene-di-isocyanate - Reportable quantity: 100 pounds.
Reportable quantity for mixture: 49603.1746 pounds.
CAA - Clean Air Act
CAA listed substances:
hexamethylene-di-isocyanate is listed in CAA Section 112(b) - HAP.
CWA - Clean Water Act
CWA listed substances:
None.

USA - State specific regulations
California Proposition 65
Substance(s) listed under California Proposition 65:
None.
Massachusetts Right to know
Substance(s) listed under Massachusetts Right to know:
hexamethylene-di-isocyanate.
New Jersey Right to know
Substance(s) listed under New Jersey Right to know:
hexamethylene-di-isocyanate.
Pennsylvania Right to know
Substance(s) listed under Pennsylvania Right to know:
No substances listed.

16. OTHER INFORMATION

Text of phrases referred to under heading 3:
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.



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H335 May cause respiratory irritation.
H412 Harmful to aquatic life with long lasting effects.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H331 Toxic if inhaled.

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Disclaimer:

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. The information relates only to the specific material and may not be valid for such material used in combination with any other material or in any process.

This Safety Data Sheet cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average