



## Safety Data Sheet

### Non yellowing hardener

Safety Data Sheet dated 5/16/2018, version 2

#### 1. IDENTIFICATION

##### Product identifier

Mixture identification:

Trade name:

Non yellowing hardener

Other means of identification:

Trade code:

6CTN52SA

Recommended use of the chemical and restrictions on use

Recommended use: Surface coating

Restrictions on use:

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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



Danger, Flam. Liq. 2, Highly flammable liquid and vapour.



Warning, Eye Irrit. 2A, Causes serious eye irritation.



Warning, Skin Sens. 1, May cause an allergic skin reaction.



Warning, Carc. 2, Suspected of causing cancer.



Warning, STOT SE 3, May cause respiratory irritation.



Warning, STOT SE 3, May cause drowsiness or dizziness.

##### Label elements

##### Hazard pictograms:



Danger

##### Hazard statements:

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

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H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

#### Precautionary statements:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash your face, hands and every exposed part thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

P308+P313 IF exposed or concerned: Get medical advice/attention.

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.

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:



#### HMS rating:

HEALTH	*	2
FLAMMABILITY		3
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:


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>= 25% - < 48% Hexamethylene diisocyanate, oligomers  
REACH No.: 01-2119485796-17-xxxx, CAS: 28182-81-2

 A.1/4/Inhal Acute Tox. 4 H332

 A.8/3 STOT SE 3 H335

 A.4.2/1 Skin Sens. 1 H317

>= 20% - < 25% ethyl acetate  
REACH No.: 01-2119475103-46-xxxx, Index number: 607-022-00-5, CAS: 141-78-6, EC: 205-500-4

 B.6/2 Flam. Liq. 2 H225

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

 A.8/3 STOT SE 3 H336

>= 12.5% - < 20% butanone  
REACH No.: 01-2119457290-43-xxxx, Index number: 606-002-00-3, CAS: 78-93-3, EC: 201-159-0

 B.6/2 Flam. Liq. 2 H225

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


 A.8/3 STOT SE 3 H336

>= 9.9% - < 12.5% sec-butyl acetate  
REACH No.: 01-2119488971-22-xxxx, Index number: 607-026-00-7, CAS: 110-19-0, EC: 203-745-1

 B.6/2 Flam. Liq. 2 H225

 A.8/3 STOT SE 3 H336

>= 7% - < 9.9% n-butyl acetate  
REACH No.: 01-2119485493-29-xxxx, Index number: 607-025-00-1, CAS: 123-86-4, EC: 204-658-1


 B.6/3 Flam. Liq. 3 H226

 A.8/3 STOT SE 3 H336

>= 5% - < 7% 4-methylpentan-2-one; isobutyl methyl ketone  
REACH No.: 01-2119473980-30-xxxx, Index number: 606-004-00-4, CAS: 108-10-1, EC: 203-550-1

 A.8/3 STOT SE 3 H336

 B.6/2 Flam. Liq. 2 H225

 A.6/2 Carc. 2 H351

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

 A.8/3 STOT SE 3 H335



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A.1/4/Inhal Acute Tox. 4 H332

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#### 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.  
After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Protect uninjured eye.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

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

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#### 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

In case of fire: Use a CO<sub>2</sub>, 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.

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#### 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.

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#### 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

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 flame and sparks. Avoid accumulating electrostatic charge.



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Place recipients on the ground whilst decanting, and wear anti-static clothing and shoes.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

Safety electric system.

Storage temperature:

Store at ambient temperature.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

ethyl acetate - CAS: 141-78-6

(OEL (IT)) - TWA: 734 mg/m<sup>3</sup>, 200 ppm - STEL: 1469 mg/m<sup>3</sup>, 400 ppm

ACGIH - TWA(8h): 400 ppm - Notes: URT and eye irr

EU - TWA: 734 mg/m<sup>3</sup>, 200 ppm - STEL: 1469 mg/m<sup>3</sup>, 400 ppm

butanone - CAS: 78-93-3

(OEL (IT)) - TWA(8h): 600 mg/m<sup>3</sup>, 200 ppm - STEL: 900 mg/m<sup>3</sup>, 300 ppm - Behaviour: Binding

EU - TWA(8h): 600 mg/m<sup>3</sup>, 200 ppm - STEL: 900 mg/m<sup>3</sup>, 300 ppm

ACGIH - TWA(8h): 200 ppm - STEL: 300 ppm - Notes: BEI - URT irr, CNS and PNS impair

sec-butyl acetate - CAS: 110-19-0

Québec - TWA: 712.64 mg/m<sup>3</sup>, 150 ppm

ACGIH - TWA(8h): 50 ppm - STEL: 150 ppm - Notes: Eye and URT irr

n-butyl acetate - CAS: 123-86-4

TWA (Italia) - TWA: 150 ppm - STEL: 200 ppm

ACGIH - TWA(8h): 50 ppm - STEL: 150 ppm - Notes: Eye and URT irr

4-methylpentan-2-one; isobutyl methyl ketone - CAS: 108-10-1

(OEL (IT)) - TWA(8h): 83 mg/m<sup>3</sup>, 20 ppm - STEL: 208 mg/m<sup>3</sup>, 50 ppm - Behaviour: Binding

EU - TWA(8h): 83 mg/m<sup>3</sup>, 20 ppm - STEL: 208 mg/m<sup>3</sup>, 50 ppm

ACGIH - TWA(8h): 20 ppm - STEL: 75 ppm - Notes: A3, BEI - URT irr, dizziness, headache

### DNEL Exposure Limit Values

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

Worker Industry: 0.5 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

Consumer: 1 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

ethyl acetate - CAS: 141-78-6

Worker Industry: 1468 mg/m<sup>3</sup> - Consumer: 734 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

Worker Industry: 1468 ppm - Exposure: Human Inhalation - Frequency: Short Term (acute)

Worker Industry: 63 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Industry: 734 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Industry: 734 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 4.5 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects

Consumer: 734 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term (acute)

Consumer: 734 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 37 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, local effects

Consumer: 367 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

Consumer: 367 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

butanone - CAS: 78-93-3

Worker Industry: 1161 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Industry: 600 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 412 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 106 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 31 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects

sec-butyl acetate - CAS: 110-19-0

Worker Industry: 4.95 mg/Kg-bw/day - Consumer: 2.48 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Industry: 243 mg/m<sup>3</sup> - Consumer: 60.3 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 2.48 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects

n-butyl acetate - CAS: 123-86-4

Worker Professional: 600 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects

Worker Professional: 300 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Professional: 11 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 11 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Consumer: 300 mg/kg - Exposure: Human Inhalation - Frequency: Short Term, local effects

Consumer: 35.7 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

Consumer: 6 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects

Consumer: 2 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Consumer: 2 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects

4-methylpentan-2-one; isobutyl methyl ketone - CAS: 108-10-1

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Worker Industry: 208 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term (acute)  
 Worker Industry: 208 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects  
 Worker Industry: 11.8 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)  
 Worker Industry: 83 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term (repeated)  
 Worker Industry: 83 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects  
 Consumer: 155.2 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term (acute)  
 Consumer: 155.2 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, local effects  
 Consumer: 4.2 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)  
 Consumer: 14.7 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term (repeated)  
 Consumer: 4.2 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)

#### PNEC Exposure Limit Values

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

Target: Fresh Water - Value: 0.127 mg/l  
 Target: Marine water - Value: 0.0127 mg/l  
 Target: occasional emission - Value: 1.27 mg/l  
 Target: Freshwater sediments - Value: 266700 mg/kg dwt  
 Target: Marine water sediments - Value: 26670 mg/kg dwt  
 Target: Microorganisms in sewage treatments - Value: 38.3 mg/l  
 Target: Soil (agricultural) - Value: 53182 mg/kg dwt

ethyl acetate - CAS: 141-78-6

Target: Fresh Water - Value: 0.26 mg/l  
 Target: Marine water - Value: 0.026 mg/l  
 Target: Freshwater sediments - Value: 1.25 mg/kg  
 Target: Marine water sediments - Value: 0.125 mg/kg  
 Target: Soil (agricultural) - Value: 0.24 mg/kg  
 Target: orally (secondary poisoning) - Value: 200 mg/kg - Notes:: Dietetico  
 Target: STP - Value: 650 mg/l

butanone - CAS: 78-93-3

Target: Marine water - Value: 55.8 mg/l  
 Target: Fresh Water - Value: 55.8 mg/l  
 Target: occasional emission - Value: 55.8 mg/l  
 Target: STP - Value: 709 mg/l  
 Target: Freshwater sediments - Value: 284.7 mg/kg dwt  
 Target: Marine water sediments - Value: 284.7 mg/kg dwt  
 Target: Soil (agricultural) - Value: 22.5 mg/kg  
 Target: orally (secondary poisoning) - Value: 1000 mg/kg

sec-butyl acetate - CAS: 110-19-0

Target: Fresh Water - Value: 0.17 mg/l  
 Target: Marine water - Value: 0.017 mg/l  
 Target: Freshwater sediments - Value: 0.877 mg/kg  
 Target: Marine water sediments - Value: 0.0877 mg/kg  
 Target: Soil (agricultural) - Value: 0.0755 mg/kg

n-butyl acetate - CAS: 123-86-4

Target: Fresh Water - Value: 0.18 mg/l  
 Target: Marine water - Value: 0.018 mg/l  
 Target: Freshwater sediments - Value: 0.981 mg/kg  
 Target: Marine water sediments - Value: 0.0981 mg/kg  
 Target: Soil (agricultural) - Value: 0.0903 mg/kg  
 Target: STP - Value: 35.6 mg/l

4-methylpentan-2-one; isobutyl methyl ketone - CAS: 108-10-1

Target: Fresh Water - Value: 0.6 mg/l  
 Target: Marine water - Value: 0.06 mg/l  
 Target: Freshwater sediments - Value: 8.27 mg/kg  
 Target: Marine water sediments - Value: 0.83 mg/kg  
 Target: Soil (agricultural) - Value: 1.3 mg/kg

#### 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



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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:	< 21°C - < 69.8 °F
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.9860 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
Decomposition temperature:	N.A.
Viscosity (typical value):	12.00 " Din cup # 4
Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

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## 10. STABILITY AND REACTIVITY

- Reactivity  
It may generate dangerous reactions (See subsections below)
- Chemical stability  
It may generate dangerous reactions (See subsections below)
- Possibility of hazardous reactions  
No dangerous reaction is stored and used appropriately.
- Conditions to avoid  
Avoid accumulating electrostatic charge.  
Vapours can form explosive mixtures with air.
- Incompatible materials  
Avoid contact with combustible materials. The product could catch fire.
- Hazardous decomposition products  
None.

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## 11. TOXICOLOGICAL INFORMATION

- Information on toxicological effects  
Toxicological information of the product:  
N.A.
- Toxicological information of the main substances found in the product:  
Hexamethylene diisocyanate, oligomers - CAS: 28182-81-2
- a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat > 2500 mg/kg  
Test: LC50 - Route: Inhalation - Species: Rat = 390 mg/m<sup>3</sup> - Duration: 4h - Notes: ( OCSE Guide line 403 )  
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg
- b) skin corrosion/irritation:  
Test: Skin Irritant - Species: Rabbit Negative  
Test: Respiratory Tract Irritant Positive
- c) serious eye damage/irritation:  
Test: Eye Irritant Negative
- d) respiratory or skin sensitisation:  
Test: Skin Sensitization - Species: Cavia porcellus Positive
- ethyl acetate - CAS: 141-78-6
- a) acute toxicity:  
Test: LD50 - Route: Skin - Species: Rabbit > 20000 mg/kg  
Test: LD50 - Route: Oral - Species: Rat = 5620 mg/kg  
Test: LC50 - Route: Inhalation - Species: Rat > 29.3 mg/l - Duration: 4h  
Test: LD50 - Route: Oral - Species: Rabbit = 4934 mg/kg body weight
- b) skin corrosion/irritation:  
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative
- e) germ cell mutagenicity:  
Test: Genotoxicity Negative
- j) aspiration hazard:  
Test: Respiratory Tract Corrosive - Route: Inhalation Positive
- butanone - CAS: 78-93-3
- a) acute toxicity:

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- Test: LD50 - Route: Oral - Species: Rat = 2737 mg/kg  
 Test: LD50 - Route: Skin - Species: Rabbit = 6480 mg/kg  
 Test: LC50 - Route: Inhalation - Species: Rat = 23.5 mg/l - Duration: 8h
- b) skin corrosion/irritation:  
 Test: Skin Corrosive - Species: Rabbit Negative - Notes: moderatamente irritante  
 sec-butyl acetate - CAS: 110-19-0
- a) acute toxicity:  
 Test: LD50 - Route: Oral - Species: Rat 13413 mg/kg  
 Test: LD50 - Route: Skin - Species: Rabbit > 17400 mg/kg  
 Test: LC50 - Route: Inhalation - Species: Rat > 30 mg/l - Duration: 6h
- n-butyl acetate - CAS: 123-86-4
- a) acute toxicity:  
 Test: LC50 - Route: Inhalation - Species: Rat > 21 mg/l - Duration: 4h  
 Test: LD50 - Route: Oral - Species: Rat = 10736 mg/kg - Notes: Method OECD linee guide 402  
 Test: LD50 - Route: Skin - Species: Rabbit > 14000 mg/kg
- 4-methylpentan-2-one; isobutyl methyl ketone - CAS: 108-10-1
- a) acute toxicity:  
 Test: LC50 - Route: Inhalation - Species: Rat = 23.29 g/m3  
 Test: LD50 - Route: Oral - Species: Rat = 2080 mg/kg  
 Test: LC50 - Route: Inhalation - Species: Rat = 8.2 mg/l - Duration: 4h  
 Test: LD50 - Route: Skin - Species: Rabbit = 2000 mg/kg

Substance(s) listed on the NTP report on Carcinogens:

None.

Substance(s) listed on the IARC Monographs:

4-methylpentan-2-one; isobutyl methyl ketone - Group 2B.

Substance(s) listed as OSHA Carcinogen(s):

None.

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.

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

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 8.9 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 127 mg/l - Duration h: 48

Endpoint: CE20 - Species: Active mud = 3828 mg/l - Duration h: 3

Endpoint: ErC50 - Species: Algae > 1000 mg/l - Duration h: 72

ethyl acetate - CAS: 141-78-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 454.7 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 154 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae = 3300 mg/l - Duration h: 48

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Algae > 100 mg/l - Duration h: 72

butanone - CAS: 78-93-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 3220 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 520 mg/l - Duration h: 48

sec-butyl acetate - CAS: 110-19-0

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 17 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 25 mg/l - Duration h: 48

Endpoint: LC50 - Species: Algae = 370 mg/l - Duration h: 72

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia = 23 mg/l - Duration h: 504

c) Bacteria toxicity:

Endpoint: EC50 - Species: Active mud = 1886 mg/l - Duration h: 6

n-butyl acetate - CAS: 123-86-4

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 64 mg/l - Duration h: 48

Endpoint: EC50 - Species: Daphnia = 73 mg/l - Duration h: 24

Endpoint: EC50 - Species: Algae = 674 mg/l - Duration h: 72

4-methylpentan-2-one; isobutyl methyl ketone - CAS: 108-10-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 100 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 100 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae > 100 mg/l

Persistence and degradability





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

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## 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.

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## 14. TRANSPORT INFORMATION

### UN number

ADR-UN Number:	1263	
DOT-UN Number:	1263	
IATA-UN Number:	1263	
IMDG-UN Number:	1263	
UN proper shipping name		
ADR-Shipping Name:		Paint Related material
DOT-Shipping Name:		Paint Related material
IATA-Shipping Name:		Paint Related material
IMDG-Shipping Name:		Paint Related material
Transport hazard class(es)		
ADR-Class:	3	
DOT-Class:	3	
IATA-Class:	3	
IMDG-Class:	3	
Packing group		
ADR-Packing Group: II		
DOT-Packing Group: II		
IATA-Packing group: II		
IMDG-Packing group: II		
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

ADR-Tunnel Restriction Code:	D/E	
DOT-Special provisions:		149, B52, IB2, T4, TP1, TP8, TP28
IATA-Passenger Aircraft:		353
IATA-Cargo Aircraft:		364
IATA-S.P.:		A72
IATA-ERG:		8L
IMDG-EmS:		F-E, <u>S-E</u>
IMDG-Storage category:		B
IMDG-Storage notes:		None

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## 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:

n-butyl acetate is listed in TSCA Section 4, Section 12b

4-methylpentan-2-one; isobutyl methyl ketone is listed in TSCA Section 4.

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: 4-methylpentan-2-one; isobutyl methyl ketone.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: ethyl acetate - Reportable quantity: 5000 pounds

butanone - Reportable quantity: 5000 pounds

sec-butyl acetate - Reportable quantity: 5000 pounds

n-butyl acetate - Reportable quantity: 5000 pounds

4-methylpentan-2-one; isobutyl methyl ketone - Reportable quantity: 5000 pounds.

Reportable quantity for mixture: 21739.13043 pounds.

CAA - Clean Air Act



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CAA listed substances:

ethyl acetate is listed in CAA Section 111

butanone is listed in CAA Section 111, Section 112(b) - HAP, Section 112(b) - HON

sec-butyl acetate is listed in CAA Section 111

n-butyl acetate is listed in CAA Section 111

4-methylpentan-2-one; isobutyl methyl ketone is listed in CAA Section 111, Section 112(b) - HAP, Section 112(b) - HON.

CWA - Clean Water Act

CWA listed substances:

ethyl acetate is listed in CWA Section 304

sec-butyl acetate is listed in CWA Section 311

n-butyl acetate is listed in CWA Section 311, Section 304

4-methylpentan-2-one; isobutyl methyl ketone is listed in CWA Section 304.

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

4-methylpentan-2-one; isobutyl methyl ketone - Listed as carcinogen.

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

ethyl acetate

butanone

sec-butyl acetate

n-butyl acetate

4-methylpentan-2-one; isobutyl methyl ketone.

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

ethyl acetate

butanone

sec-butyl acetate

n-butyl acetate

4-methylpentan-2-one; isobutyl methyl ketone.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

ethyl acetate

butanone

sec-butyl acetate

n-butyl acetate

4-methylpentan-2-one; isobutyl methyl ketone.

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## 16. OTHER INFORMATION

Text of phrases referred to under heading 3:

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H317 May cause an allergic skin reaction.

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H226 Flammable liquid and vapour.

H351 Suspected of causing cancer.

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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.



## Safety Data Sheet

### Non yellowing hardener

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