



Safety Data Sheet ACR Hardener

Safety Data Sheet dated 1/13/2020, version 1

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: ACR Hardener

Other means of identification:

Trade code: 6CA142

Recommended use of the chemical and restrictions on use

Recommended use: 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



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



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



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, Carc. 2, Suspected of causing cancer.



Warning, Repr. 2, Suspected of damaging fertility or the unborn child.



Warning, STOT SE 3, May cause respiratory irritation.



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



Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.

Label elements

Hazard pictograms:

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Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.

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.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P284 [In case of inadequate ventilation] wear respiratory 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.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position 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.
P314 Get medical advice/attention if you feel unwell.
P321 Specific treatment (see supplementary instructions on this label).
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/...
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:





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HMIS 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:

>= 25% - < 48% 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

>= 25% - < 48% Hexamethylene diisocyanate, oligomerisation product (biuret type).

REACH No.: 01-2119970543-34-xxxx, CAS: 28182-81-2, EC: 939-340-8



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



A.4.2/1 Skin Sens. 1 H317



A.8/3 STOT SE 3 H335

>= 9.9% - < 12.5% 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

>= 3% - < 5% xylene [isomer mixture]

REACH No.: 01-2119488216-32-xxxx, Index number: 601-022-00-9, CAS: 1330-20-7, EC: 215-535-7



B.6/3 Flam. Liq. 3 H226



A.10/1 Asp. Tox. 1 H304



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



A.8/3 STOT SE 3 H335



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A.9/2 STOT RE 2 H373



A.2/2 Skin Irrit. 2 H315



A.1/4/Dermal Acute Tox. 4 H312



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

$\geq 2.5\%$ - $< 3\%$ toluene

REACH No.: 01-2119471310-51-xxxx, Index number: 601-021-00-3, CAS: 108-88-3, EC: 203-625-9



B.6/2 Flam. Liq. 2 H225



A.7/2 Repr. 2 H361



A.10/1 Asp. Tox. 1 H304



A.9/2 STOT RE 2 H373



A.2/2 Skin Irrit. 2 H315



A.8/3 STOT SE 3 H336

$\geq 1\%$ - $< 2\%$ ethylbenzene

REACH No.: 01-2119489370-35-xxxx, Index number: 601-023-00-4, CAS: 100-41-4, EC: 202-849-4



A.10/1 Asp. Tox. 1 H304



B.6/2 Flam. Liq. 2 H225



A.2/2 Skin Irrit. 2 H315



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



A.6/2 Carc. 2 H351

$\geq 0.1\%$ - $< 0.2\%$ 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



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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

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.
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

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.
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.



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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/m³, 200 ppm - STEL: 1469 mg/m³, 400 ppm
ACGIH - TWA(8h): 400 ppm - Notes: URT and eye irr
EU - TWA(8h): 734 mg/m³, 200 ppm - STEL: 1468 mg/m³, 400 ppm
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
xylene [isomer mixture] - CAS: 1330-20-7
(OEL (IT)) - TWA(8h): 221 mg/m³, 50 ppm - STEL: 442 mg/m³, 100 ppm - Behaviour: Binding - Notes: pelle
EU - TWA(8h): 221 mg/m³, 50 ppm - STEL: 442 mg/m³, 100 ppm - Notes: Skin
ACGIH - TWA(8h): 100 ppm - STEL: 150 ppm - Notes: A4, BEI - URT and eye irr, CNS impair
toluene - CAS: 108-88-3
(OEL (IT)) - TWA(8h): 192 mg/m³, 50 ppm - Behaviour: Binding - Notes: Pelle
EU - TWA(8h): 192 mg/m³, 50 ppm - STEL: 384 mg/m³, 100 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: A4, BEI - Visual impair, female repro, pregnancy loss
ethylbenzene - CAS: 100-41-4
(OEL (IT)) - TWA(8h): 442 mg/m³, 100 ppm - STEL: 884 mg/m³, 200 ppm - Behaviour: Binding - Notes: pelle
EU - TWA(8h): 442 mg/m³, 100 ppm - STEL: 884 mg/m³, 200 ppm - Notes: Skin
ACGIH - TWA(8h): 20 ppm - Notes: A3, BEI - URT irr, kidney dam (nephropathy), cochlear impair
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

ethyl acetate - CAS: 141-78-6
Worker Industry: 1468 mg/m³ - Consumer: 734 mg/m³ - 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/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Industry: 734 mg/m³ - 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/m³ - Exposure: Human Inhalation - Frequency: Short Term (acute)
Consumer: 734 mg/m³ - 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/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Consumer: 367 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Hesamethylene diisocyanate, oligomerisation product (biuret type). - CAS: 28182-81-2
Worker Industry: 0.5 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Consumer: 1 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
n-butyl acetate - CAS: 123-86-4
Worker Professional: 600 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Professional: 300 mg/m³ - 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/m³ - 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
xylene [isomer mixture] - CAS: 1330-20-7
Worker Industry: 180 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 77 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 108 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 1872 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Consumer: 12.5 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects
toluene - CAS: 108-88-3
Consumer: 226 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Consumer: 226 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Consumer: 226 mg/m³ - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 56.5 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 8.13 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Industry: 384 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 384 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects



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Worker Industry: 192 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
ethylbenzene - CAS: 100-41-4
Worker Industry: 180 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 293 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 77 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
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

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

Hexamethylene diisocyanate, oligomerisation product (biuret type). - CAS: 28182-81-2
Target: STP - Value: 6.46 mg/l

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

xylene [isomer mixture] - CAS: 1330-20-7
Target: Fresh Water - Value: 0.327 mg/l
Target: Fresh Water - Value: 0.327 mg/l
Target: occasional emission - Value: 0.327 mg/l
Target: Microorganisms in sewage treatments - Value: 6.58 mg/l
Target: Soil (agricultural) - Value: 2.31 mg/kg - Notes:: dry
Target: Marine water sediments - Value: 12.46 mg/kg - Notes:: dry
Target: Freshwater sediments - Value: 12.46 mg/kg - Notes:: dry

toluene - CAS: 108-88-3
Target: Fresh Water - Value: 0.68 mg/l
Target: Marine water - Value: 0.68 mg/l
Target: Soil (agricultural) - Value: 2.89 mg/kg
Target: Marine water sediments - Value: 16.39 mg/l
Target: Freshwater sediments - Value: 16.39 mg/l
Target: STP - Value: 13.61 mg/l

ethylbenzene - CAS: 100-41-4
Target: Fresh Water - Value: 0.1 mg/l
Target: Marine water - Value: 0.01 mg/l
Target: Marine water sediments - Value: 13.7 mg/l
Target: Freshwater sediments - Value: 13.7 mg/l
Target: occasional emission - Value: 0.1 mg/l

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



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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:	< 21° C - < 69.8 °F
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.9400 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.
Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

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.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the product:

N.A.

Toxicological information of the main substances found in the product:

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

Hesamethylene diisocyanate, oligomerisation product (biuret type). - CAS: 28182-81-2

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat > 400 mg/m3 - Duration: 4h - Source: OCSE -Guide line 403

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

xylene [isomer mixture] - CAS: 1330-20-7

a) acute toxicity:

Test: LD50 - Route: Inhalation - Species: Rat = 27 mg/l - Duration: 4h

Test: LD50 - Route: Oral - Species: Rat = 3523 mg/kg



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Test: LD50 - Route: Skin - Species: Rabbit = 12126 mg/kg
toluene - CAS: 108-88-3
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 5000 mg/kg - Duration: 24h
Test: LD50 - Route: Skin - Species: Rabbit 12267 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 25.7 mg/l - Duration: 4h
ethylbenzene - CAS: 100-41-4
a) acute toxicity:
Test: LD50 - Route: Skin - Species: Rabbit = 15400 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat = 4000 Ppm - Duration: 4h
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Route: Skin - Species: Cavia porcellus Negative
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:

xylene [isomer mixture] - Group 3

toluene - Group 3

ethylbenzene - Group 2B.

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.

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

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

xylene [isomer mixture] - CAS: 1330-20-7

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia = 1 mg/l - Duration h: 48

Endpoint: LC50 - Species: Fish = 3.2 mg/l - Duration h: 96

Endpoint: LC50 - Species: Algae = 2.6 mg/l - Duration h: 73

toluene - CAS: 108-88-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 5.5 ml/l - Duration h: 96

Endpoint: EC50 - Species: Algae > 134 ml/l - Duration h: 72

b) Aquatic chronic toxicity:

Endpoint: EC50 - Species: Daphnia = 3.78 mg/l - Duration h: 48

ethylbenzene - CAS: 100-41-4

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 42.3 mg/l - Duration h: 96

Persistence and degradability

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.

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

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, S-E

IMDG-Storage category: B

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

No

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

toluene is listed in TSCA Section 8a - CAIR

ethylbenzene 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: xylene [isomer mixture], toluene, ethylbenzene, hexamethylene-di-isocyanate.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

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

n-butyl acetate - Reportable quantity: 5000 pounds

xylene [isomer mixture] - Reportable quantity: 100 pounds

toluene - Reportable quantity: 1000 pounds

ethylbenzene - Reportable quantity: 1000 pounds

hexamethylene-di-isocyanate - Reportable quantity: 100 pounds.

Reportable quantity for mixture: 2426.889941 pounds.

CAA - Clean Air Act

CAA listed substances:

ethyl acetate is listed in CAA Section 111

n-butyl acetate is listed in CAA Section 111

xylene [isomer mixture] is listed in CAA Section 111, Section 112(b) - HAP, Section 112(b) - HON

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

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



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- hexamethylene-di-isocyanate is listed in CAA Section 112(b) - HAP.
- CWA - Clean Water Act
- CWA listed substances:
- ethyl acetate is listed in CWA Section 304
 - n-butyl acetate is listed in CWA Section 311, Section 304
 - xylene [isomer mixture] is listed in CWA Section 311, Section 304
 - toluene is listed in CWA Section 311, Section 304, Section 307
 - ethylbenzene is listed in CWA Section 311, Section 304, Section 307.
- USA - State specific regulations
- California Proposition 65
- Substance(s) listed under California Proposition 65:
- toluene - Listed as reproductive toxicant
 - ethylbenzene - Listed as carcinogen.
- Massachusetts Right to know
- Substance(s) listed under Massachusetts Right to know:
- ethyl acetate
 - n-butyl acetate
 - xylene [isomer mixture]
 - toluene
 - ethylbenzene
 - hexamethylene-di-isocyanate.
- New Jersey Right to know
- Substance(s) listed under New Jersey Right to know:
- ethyl acetate
 - n-butyl acetate
 - xylene [isomer mixture]
 - toluene
 - ethylbenzene
 - hexamethylene-di-isocyanate.
- Pennsylvania Right to know
- Substance(s) listed under Pennsylvania Right to know:
- ethyl acetate
 - n-butyl acetate
 - xylene [isomer mixture]
 - toluene
 - ethylbenzene.

16. OTHER INFORMATION

- Text of phrases referred to under heading 3:
- H225 Highly flammable liquid and vapour.
 - H319 Causes serious eye irritation.
 - H336 May cause drowsiness or dizziness.
 - H332 Harmful if inhaled.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.
 - H226 Flammable liquid and vapour.
 - H304 May be fatal if swallowed and enters airways.
 - H373 May cause damage to organs through prolonged or repeated exposure.
 - H315 Causes skin irritation.
 - H312 Harmful in contact with skin.
 - H361 Suspected of damaging fertility or the unborn child.
 - H351 Suspected of causing cancer.
 - 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



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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