Safety Data Sheet
PU Hardener

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

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: PU Hardener

Other means of identification:

Trade code: 6CT087

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, Skin Irrit. 2, Causes skin irritation.

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 drowsiness or dizziness.

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

Danger, Asp. Tox. 1, May be fatal if swallowed and enters airways.

Label elements

Hazard pictograms:

Danger

Hazard statements:

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
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.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.

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.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
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).
P331 Do NOT induce vomiting.
P332+P313 If skin irritation occurs: Get medical advice/attention.
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/...
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use a CO_2, 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

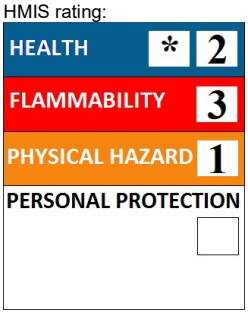
Ingredient(s) with unknown acute toxicity:

None.

Additional classification information

NFPA rating:

HMIS rating:



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

>= 20% - < 25% 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

>= 12.5% - < 20% Aromatic polyisocyanate

CAS: 9017-01-0

A.4.2/1 Skin Sens. 1 H317

>= 12.5% - < 20% 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

>= 9.9% - < 12.5% 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

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

>= 5% - < 7% Toluendiisociancyanate (Polymer)
CAS: 53317-61-6

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

A.4.2/1 Skin Sens. 1 H317

>= 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

>= 0.1% - < 0.2% m-tolylidene diisocyanate (Mixture of isomers)
REACH No.: 01-2119454791-34-xxxx, Index number: 615-006-00-4, CAS: 26471-62-5, EC: 247-722-4

A.6/2 Carc. 2 H351

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

US-HAE/C3 Aquatic Chronic 3 H412

A.1/2/Inhal Acute Tox. 2 H330

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 opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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 CO_2, 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.
Remove persons to safety.
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.

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.
Contamined 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.
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

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

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

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

m-tolylidene diisocyanate (Mixture of isomers) - CAS: 26471-62-5
VLE - TWA(8h): 0.005 ppm - STEL: 0.02 ppm
ACGIH - TWA: 0.04 mg/m3, 0.01 ppm - STEL: 0.14 mg/m3, 0.02 ppm - Notes: A4 sen

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

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
Worker Industry: 192 mg/m3 - Exposure: Human Inhalation - Frequency: Long 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

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

m-tolylidene diisocyanate (Mixture of isomers) - CAS: 26471-62-5
Worker Industry: 0.14 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 0.14 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 0.035 mg/m3 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 0.0035 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

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

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

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

m-tolylidene diisocyanate (Mixture of isomers) - CAS: 26471-62-5
Target: Fresh Water - Value: 0.013 mg/l
Target: Marine water - Value: 0.00125 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 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:	< 21°C - < 69.8 °F
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.9700 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):	13.00 " Din cup # 4
Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

10. STABILITY AND REACTIVITY

Reactivity
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
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
Aromatic polyisocyanate - CAS: 9017-01-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
b) skin corrosion/irritation:

Test: Skin Sensitization - Route: Skin - Species: Cavia porcellus Positive
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
Test: LD50 - Route: Skin - Species: Rabbit = 12126 mg/kg
Toluendiisociancyanate (Polymer) - CAS: 53317-61-6
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 2.462 mg/l - Duration: 4h - Notes: tests conducted on a comparable product
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg - Notes: tests conducted on a comparable product
Test: LC50 - Route: Inhalation Mist - Species: Rat > 3820 mg/l - Duration: 4h
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative - Notes: tests conducted on a comparable product
c) serious eye damage/irritation:
Test: Eye Irritant Positive
d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: Cavia porcellus Positive - Notes: tests conducted on a comparable product
e) germ cell mutagenicity:
Test: Genotoxicity - Species: Salmonella Typhimurium Negative - Source: Method OECD TG 471 - Notes: tests conducted on a comparable product
j) aspiration hazard:
Test: Respiratory Tract Irritant - Route: Inhalation - Species: Rabbit Positive
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
m-tolylidene diisocyanate (Mixture of isomers) - CAS: 26471-62-5
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat male = 5110 mg/kg
Test: LD50 - Route: Oral - Species: Rat Female = 4130 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 9400 mg/kg
Test: LC50 - Route: Inhalation Mist - Species: Rat = 101 mg/m3 - Duration: 4h - Notes: Satur vapor concentration at 25°C : 255 mg/m3
Test: LC50 - Route: Inhalation Vapour - Species: Rat 0.47 mg/l - Duration: 1h
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive
j) aspiration hazard:
Test: Respiratory Tract Corrosive - Route: Inhalation - Species: Rabbit Positive

Substance(s) listed on the NTP report on Carcinogens:
m-tolylidene diisocyanate (Mixture of isomers).
Substance(s) listed on the IARC Monographs:
toluene - Group 3
xylene [isomer mixture] - Group 3
ethylbenzene - Group 2B
m-tolylidene diisocyanate (Mixture of isomers) - Group 2B.
Substance(s) listed as OSHA Carcinogen(s):
Toluendiisociancyanate (Polymer)
m-tolylidene diisocyanate (Mixture of isomers).
Substance(s) listed as NIOSH Carcinogen(s):
Toluendiisociancyanate (Polymer).

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
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
Aromatic polyisocyanate - CAS: 9017-01-0
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Active mud > 10000 mg/l
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
ethylbenzene - CAS: 100-41-4
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 42.3 mg/l - Duration h: 96
m-tolylidene diisocyanate (Mixture of isomers) - CAS: 26471-62-5
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 133 mg/l - Duration h: 96
Endpoint: ErC50 - Species: Algae = 4300 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia = 12.5 mg/l - Duration h: 48
Endpoint: NOEC - Species: Daphnia = 1.1 mg/l - Duration h: 504
Endpoint: ErC50 - Species: Algae 4300 mg/l - Duration h: 96

Persistence and degradability
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
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-Enviromental 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:
toluene is listed in TSCA Section 8a - CAIR
n-butyl acetate is listed in TSCA Section 4, Section 12b
ethylbenzene is listed in TSCA Section 4
m-tolylidene diisocyanate (Mixture of isomers) is listed in TSCA Section 8a - CAIR, Section 8d, Section 8d HSDR.

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: toluene, xylene [isomer mixture], ethylbenzene, m-tolylidene diisocyanate (Mixture of isomers).

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: ethyl acetate - Reportable quantity: 5000 pounds
toluene - Reportable quantity: 1000 pounds
n-butyl acetate - Reportable quantity: 5000 pounds
xylene [isomer mixture] - Reportable quantity: 100 pounds
ethylbenzene - Reportable quantity: 1000 pounds
m-tolylidene diisocyanate (Mixture of isomers) - Reportable quantity: 100 pounds.
Reportable quantity for mixture: 980.3921569 pounds.

CAA - Clean Air Act

CAA listed substances:
ethyl acetate is listed in CAA Section 111
toluene is listed in CAA Section 111, Section 112(b) - HAP, Section 112(b) - HON
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
ethylbenzene is listed in CAA Section 111, Section 112(b) - HAP, Section 112(b) - HON
m-tolylidene diisocyanate (Mixture of isomers) is listed in CAA Section 111, Section 112(b) - HON.

CWA - Clean Water Act

CWA listed substances:
ethyl acetate is listed in CWA Section 304
toluene is listed in CWA Section 311, Section 304, Section 307
n-butyl acetate is listed in CWA Section 311, Section 304
xylene [isomer mixture] is listed in CWA Section 311, Section 304
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
m-tolylidene diisocyanate (Mixture of isomers) - Listed as carcinogen.

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:
ethyl acetate
toluene
n-butyl acetate
xylene [isomer mixture]
ethylbenzene
m-tolylidene diisocyanate (Mixture of isomers).

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:
ethyl acetate
toluene
n-butyl acetate
xylene [isomer mixture]
ethylbenzene
m-tolylidene diisocyanate (Mixture of isomers).

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:
ethyl acetate
toluene
n-butyl acetate

xylene [isomer mixture]
ethylbenzene
m-tolylidene diisocyanate (Mixture of isomers).

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.
H361 Suspected of damaging fertility or the unborn child.
H304 May be fatal if swallowed and enters airways.
H373 May cause damage to organs through prolonged or repeated exposure.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H226 Flammable liquid and vapour.
H335 May cause respiratory irritation.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412 Harmful to aquatic life with long lasting effects.
H330 Fatal if inhaled.

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