



Safety Data Sheet Reductive solution

Safety Data Sheet dated 10/20/2017, version 1

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name:

Reductive solution

Other means of identification:

Trade code:

6ES101

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, Acute Tox. 4, Harmful if swallowed.



Warning, Skin Irrit. 2, Causes skin irritation.



Danger, Eye Dam. 1, Causes serious eye damage.



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



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



Danger, STOT SE 1, Causes damage to organs.



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.

H302 Harmful if swallowed.

H315 Causes skin irritation.

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H318 Causes serious eye damage.
 H317 May cause an allergic skin reaction.
 H361 Suspected of damaging fertility or the unborn child.
 H370 Causes damage to organs.
 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.
 P233 Keep container tightly closed.
 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.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
 P301+P312 IF SWALLOWED: Immediately call a POISON CENTER/doctor/... if you feel unwell.
 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.
 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+P311 IF exposed or concerned: Call a POISON CENTER/doctor/...
 P308+P313 IF exposed or concerned: Get medical advice/attention.
 P314 Get medical advice/attention if you feel unwell.
 P330 Rinse mouth.
 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.
 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 CO₂, Foam, Chemical powders for extinction.
 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		

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

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

>= 25% - < 48% 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

>= 20% - < 25% methyl acetate

REACH No.: 01-2119459211-47-xxxx, Index number: 607-021-00-X, CAS: 79-20-9, EC: 201-185-2



B.6/2 Flam. Liq. 2 H225



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



A.8/3 STOT SE 3 H336

>= 7% - < 9.9% acetone

REACH No.: 01-2119471330-49-xxxx, Index number: 606-001-00-8, CAS: 67-64-1, EC: 200-662-2



B.6/2 Flam. Liq. 2 H225



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



A.8/3 STOT SE 3 H336

>= 7% - < 9.9% butan-1-ol

Index number: 603-004-00-6, CAS: 71-36-3, EC: 200-751-6



B.6/3 Flam. Liq. 3 H226



A.8/3 STOT SE 3 H335



A.2/2 Skin Irrit. 2 H315



A.3/1 Eye Dam. 1 H318



A.8/3 STOT SE 3 H336



A.1/4/Oral Acute Tox. 4 H302

>= 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% methanol

REACH No.: 01-2119433307-44-xxxx, Index number: 603-001-00-X, CAS: 67-56-1, EC: 200-659-6



B.6/2 Flam. Liq. 2 H225




A.8/1 STOT SE 1 H370




A.1/3/Oral Acute Tox. 3 H301

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 A.1/3/Dermal Acute Tox. 3 H311

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

>= 3% - < 5% 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

>= 2% - < 2.5% 2-methylpropan-1-ol

REACH No.: 01-2119484609-23-xxxx, Index number: 603-108-00-1, CAS: 78-83-1, EC: 201-148-0

 B.6/3 Flam. Liq. 3 H226

 A.8/3 STOT SE 3 H335


 A.2/2 Skin Irrit. 2 H315


 A.3/1 Eye Dam. 1 H318

 A.8/3 STOT SE 3 H336

>= 1% - < 2% 2-butoxyethyl acetate; butylglycol acetate


Index number: 607-038-00-2, CAS: 112-07-2, EC: 203-933-3

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

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

>= 0.1% - < 0.2% methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate

REACH No.: 01-2119452498-28-xxxx, Index number: 607-035-00-6, CAS: 80-62-6, EC: 201-297-1

 B.6/2 Flam. Liq. 2 H225

 A.8/3 STOT SE 3 H335

 A.2/2 Skin Irrit. 2 H315

 A.4.2/1 Skin Sens. 1 H317

4. FIRST-AID MEASURES

Description of necessary measures

In case of skin contact:

Immediately take off all contaminated clothing.
OBTAIN IMMEDIATE MEDICAL ATTENTION.
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 induce vomiting.
Give nothing to eat or drink.

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:



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In case of fire: Use a CO₂, Foam, Chemical powders for extinction.
Unsuitable extinguishing media:
None in particular.
Specific hazards arising from the chemical
Do not inhale explosion and combustion gases.
Burning produces heavy smoke.
Hazardous combustion products:
None
Explosive properties: N.A.
Oxidizing properties: N.A.
Special protective equipment and precautions for fire-fighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures
Wear personal protection equipment.
Remove all sources of ignition.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Remove persons to safety.
Use appropriate respiratory protection.
See protective measures under point 7 and 8.
Methods and materials for containment and cleaning up
Wash with plenty of water.

7. HANDLING AND STORAGE

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.
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.
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
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
methyl acetate - CAS: 79-20-9
EU - TWA: 610 mg/m³, 200 ppm
ACGIH - TWA(8h): 610 mg/m³, 200 ppm - STEL: 250 ppm - Notes: Headache, dizziness, nausea, eye dam (degeneration of ganglion cells in the retina)
acetone - CAS: 67-64-1
Québec - TWA(8h): 1210 mg/m³, 500 ppm - Behaviour: Binding
TWA (Italia) - TWA: 1781 mg/m³
EU - TWA(8h): 1210 mg/m³, 500 ppm
ACGIH - Behaviour: Binding - Notes: IBE: 50mg/l campione urine fine turno - indicatore biologico : Acetone
ACGIH - TWA(8h): 250 ppm - STEL: 500 ppm - Notes: (A4), BEI - (URT and eye irr, CNS impair, hematologic eff)
butan-1-ol - CAS: 71-36-3
(OEL(SLO) - TWA: 310 mg/m³, 100 ppm - Notes: - KTV : 1 - Opombe : Y

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ACGIH - TWA(8h): 20 ppm - Notes: Eye and URT irr
n-butyl acetate - CAS: 123-86-4
TWA (Italia) - TWA: 150 ppm - STEL: 200 ppm
ACGIH - TWA: 150 ppm - STEL: 200 ppm - Notes: Eye and URT irr

methanol - CAS: 67-56-1
(OEL (IT)) - TWA(8h): 260 mg/m³, 200 ppm - Behaviour: Binding - Notes: Pelle
EU - TWA(8h): 260 mg/m³, 200 ppm - Notes: Skin
ACGIH - TWA(8h): 200 ppm - STEL: 250 ppm - Notes: Skin, BEI - Headache, eye dam, dizziness, nausea

ethyl acetate - CAS: 141-78-6
(OEL (IT)) - TWA: 400 ppm
ACGIH - TWA(8h): 400 ppm - Notes: URT and eye irr

2-methylpropan-1-ol - CAS: 78-83-1
ACGIH - TWA(8h): 50 ppm - Notes: Skin and eye irr

2-butoxyethyl acetate; butylglycol acetate - CAS: 112-07-2
(OEL (IT)) - TWA(8h): 133 mg/m³, 20 ppm - STEL: 333 mg/m³, 50 ppm - Behaviour: Binding - Notes: Pelle
EU - TWA(8h): 133 mg/m³, 20 ppm - STEL: 333 mg/m³, 50 ppm - Notes: Skin
ACGIH - TWA: 131.04 mg/m³, 20 ppm - Notes: A3

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6
(OEL (IT)) - TWA(8h): 50 ppm - STEL: 100 ppm - Behaviour: Binding
EU - TWA(8h): 210 mg/m³, 50 ppm - STEL: 100 ppm
ACGIH - TWA(8h): 50 ppm - STEL: 100 ppm - Notes: DSEN, A4 - URT and eye irr, body weight eff, pulm edema

DNEL Exposure Limit Values

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

methyl acetate - CAS: 79-20-9
Worker Industry: 88 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Industry: 610 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 44 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 131 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 44 mg/Kg-bw/day - Exposure: Human Oral - Frequency: Long Term, systemic effects
Consumer: 152 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects

acetone - CAS: 67-64-1
Worker Professional: 186 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 2420 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term (acute)
Worker Professional: 1210 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

butan-1-ol - CAS: 71-36-3
Worker Industry: 310 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Industry: 310 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

methanol - CAS: 67-56-1
Worker Industry: 260 mg/m³ - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Industry: 260 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Industry: 260 mg/kg/day - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Industry: 260 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Industry: 40 mg/kg/day - Exposure: Human Dermal - Frequency: Short Term, systemic effects
Worker Industry: 40 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects

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

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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
 2-methylpropan-1-ol - CAS: 78-83-1
 Worker Industry: 310 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
 Consumer: 55 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
 Consumer: 25 mg/kg - Exposure: Human Oral - Frequency: Long Term, local effects
 methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6
 Worker Industry: 210 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
 Worker Industry: 1.5 mg/cm2 - Exposure: Human Dermal - Frequency: Long Term, local effects
 Worker Industry: 210 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
 Worker Industry: 13.67 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
 Worker Industry: 1.5 mg/cm2 - Exposure: Human Dermal - Frequency: Short Term, local effects
 Consumer: 74.3 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
 Consumer: 105 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
 Consumer: 1.5 mg/cm2 - Exposure: Human Dermal - Frequency: Short Term, local effects
 Consumer: 8.2 mg/Kg-bw/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
PNEC Exposure Limit Values
 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
 methyl acetate - CAS: 79-20-9
 Target: Freshwater sediments - Value: 0.128 mg/kg
 Target: Marine water sediments - Value: 0.0128 mg/kg
 Target: Soil (agricultural) - Value: 0.0416 mg/kg
 Target: orally (secondary poisoning) - Value: 20.4 mg/kg
 Target: Fresh Water - Value: 0.12 mg/l
 Target: Marine water - Value: 0.012 mg/l
 Target: occasional emission - Value: 1.2 mg/l
 Target: STP - Value: 600 mg/l
 acetone - CAS: 67-64-1
 Target: Marine water - Value: 1.06 mg/l
 Target: Marine water sediments - Value: 3.04 mg/l
 Target: Fresh Water - Value: 30.4 mg/l
 Target: Soil (agricultural) - Value: 29.5 mg/kg
 Target: Freshwater sediments - Value: 30.4 mg/kg
 butan-1-ol - CAS: 71-36-3
 Target: Fresh Water - Value: 0.082 mg/l
 Target: Marine water - Value: 0.0082 mg/l
 Target: Freshwater sediments - Value: 0.178 mg/kg dwt
 Target: Marine water sediments - Value: 0.0178 mg/kg dwt
 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
 methanol - CAS: 67-56-1
 Target: Marine water - Value: 15.4 mg/l
 Target: Fresh Water - Value: 154 mg/l
 Target: occasional emission - Value: 1540 mg/l
 Target: STP - Value: 100 mg/l
 Target: Soil (agricultural) - Value: 23.5 mg/kg
 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: Dietetic
 Target: STP - Value: 650 mg/l
 2-methylpropan-1-ol - CAS: 78-83-1
 Target: Fresh Water - Value: 0.4 mg/l
 Target: Marine water - Value: 0.04 mg/l
 Target: occasional emission - Value: 11 mg/l
 Target: Freshwater sediments - Value: 1.52 mg/kg
 Target: Marine water sediments - Value: 0.152 mg/kg

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Target: Soil (agricultural) - Value: 0.0699 mg/kg
 Target: Microorganisms in sewage treatments - Value: 10 mg/l
 methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6
 Target: Fresh Water - Value: 0.94 mg/l
 Target: Marine water - Value: 0.094 mg/l
 Target: Freshwater sediments - Value: 5.74 mg/kg
 Target: Soil (agricultural) - Value: 1.47 mg/kg
 Target: occasional emission - Value: 0.94 mg/l
 Target: Microorganisms in sewage treatments - Value: 10 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:	0.8900 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):	20.00 " 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:

toluene - CAS: 108-88-3

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- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat 636 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit 12267 mg/kg
 Test: LC50 - Route: Inhalation - Species: Rat 25.7 mg/l - Duration: 4h
 methyl acetate - CAS: 79-20-9
- a) acute toxicity:
 Test: LC0 - Route: Inhalation - Species: Rabbit = 49.2 mg/l - Duration: 4h
 Test: LD50 - Route: Oral - Species: Rat = 6482 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
- b) skin corrosion/irritation:
 Test: Skin Irritant - Species: Rat Negative
- c) serious eye damage/irritation:
 Test: Eye Irritant - Species: Rabbit Positive
 acetone - CAS: 67-64-1
- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat = 5800 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit = 7800 mg/kg
- b) skin corrosion/irritation:
 Test: Eye Irritant Yes
 Test: Skin Irritant - Route: Skin - Notes: Il contatto ripetuto può causare dermatiti
 butan-1-ol - CAS: 71-36-3
- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat = 2290 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit = 3430 mg/kg
 Test: LC50 - Route: Inhalation - Species: Rat = 17.76 mg/l - Duration: 4h
 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
 methanol - CAS: 67-56-1
- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat = 2769 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit = 17000 mg/kg
 Test: LC50 - Route: Inhalation - Species: Rat = 128.2 mg/l - Duration: 4h
 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
 2-methylpropan-1-ol - CAS: 78-83-1
- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat 2460 mg/kg
 Test: LD50 - Route: Skin - Species: Rabbit 2640 mg/kg
 Test: LC50 - Route: Inhalation - Species: Rat 19.2 mg/l - Duration: 4h
 methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6
- a) acute toxicity:
 Test: LD50 - Route: Oral - Species: Rat > 7900 mg/kg
 Test: LC50 - Route: Inhalation - Species: Rat = 29.8 mg/l - Duration: 4h
 Test: LD50 - Route: Skin - Species: Rabbit = 5000 mg/kg
 methanol - CAS: 67-56-1
 LD50 (RAT) ORAL SINGLE DOSE: 5628 MG/KG
 LD50 (RABBIT) SKINSINGLE DOSE: 15800 MG/KG
 2-methylpropan-1-ol - CAS: 78-83-1
- 2-butoxyethyl acetate; butylglycol acetate - CAS: 112-07-2
 LD50 (RAT) SKIN: 1580 MG/KG
- methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6

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

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Substance(s) listed on the IARC Monographs:

toluene - Group 3

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - Group 3.

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.

toluene - CAS: 108-88-3

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Algae = 12500 Ppm - Duration h: 72

Endpoint: EC50 - Species: Algae > 433 Ppm - Duration h: 96

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia = 1000 Ppm - Duration h: 504

methyl acetate - CAS: 79-20-9

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Algae > 120 mg/l - Duration h: 72

Endpoint: EC50 - Species: Daphnia = 1026 mg/l - Duration h: 24

Endpoint: LC50 - Species: Fish = 250 mg/l - Duration h: 96

acetone - CAS: 67-64-1

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia = 8800 mg/kg

b) Aquatic chronic toxicity:

Endpoint: EC50 - Species: Fish = 8300 mg/l - Duration h: 96

butan-1-ol - CAS: 71-36-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 1376 mg/l - Duration h: 96

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

methanol - CAS: 67-56-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 15400 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia > 10000 mg/l - Duration h: 48

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

2-methylpropan-1-ol - CAS: 78-83-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 1430 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia 1100 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae 1799 mg/l - Duration h: 72

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - CAS: 80-62-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 191 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 69 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae > 110 mg/l - Duration h: 72

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.



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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

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

methyl acetate is listed in TSCA Section 8a - PAIR

butan-1-ol is listed in TSCA Section 12b

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

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate 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: toluene, butan-1-ol, methanol, methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA: toluene - Reportable quantity: 1000 pounds

acetone - Reportable quantity: 5000 pounds

butan-1-ol - Reportable quantity: 5000 pounds

n-butyl acetate - Reportable quantity: 5000 pounds

methanol - Reportable quantity: 5000 pounds

ethyl acetate - Reportable quantity: 5000 pounds

2-methylpropan-1-ol - Reportable quantity: 5,000 pounds

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate - Reportable quantity: 1000 pounds.

Reportable quantity for mixture: 250 pounds.

CAA - Clean Air Act

CAA listed substances:

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

methyl acetate is listed in CAA Section 111, Section 112(b) - HON

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

butan-1-ol is listed in CAA Section 111

n-butyl acetate is listed in CAA Section 111

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

ethyl acetate is listed in CAA Section 111



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2-butoxyethyl acetate; butylglycol acetate is listed in CAA Section 111, Section 112(b) - HON
methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate is listed in CAA Section 111, Section 112(b)
- HAP, Section 112(b) - HON.

CWA - Clean Water Act

CWA listed substances:

toluene is listed in CWA Section 311, Section 304, Section 307

acetone is listed in CWA Section 304

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

methanol is listed in CWA Section 304

ethyl acetate is listed in CWA Section 304

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate is listed in CWA Section 311.

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

toluene - Listed as reproductive toxicant

methanol - Listed as carcinogen and reproductive toxicant.

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

toluene

methyl acetate

acetone

butan-1-ol

n-butyl acetate

methanol

ethyl acetate

2-methylpropan-1-ol

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate.

New Jersey Right to know

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

toluene

methyl acetate

acetone

butan-1-ol

n-butyl acetate

methanol

ethyl acetate

2-methylpropan-1-ol

2-butoxyethyl acetate; butylglycol acetate

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate.

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

toluene

methyl acetate

acetone

butan-1-ol

n-butyl acetate

methanol

ethyl acetate

2-methylpropan-1-ol

methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate.

16. OTHER INFORMATION

Text of phrases referred to under heading 3:

H225 Highly flammable liquid and vapour.

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.

H336 May cause drowsiness or dizziness.

H319 Causes serious eye irritation.

H226 Flammable liquid and vapour.

H335 May cause respiratory irritation.

H318 Causes serious eye damage.

H302 Harmful if swallowed.

H370 Causes damage to organs.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.



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H317 May cause an allergic skin reaction.

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Disclaimer:

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

This Safety Data Sheet cancels and replaces any preceding release.

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