

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/24/2013

Reviewed on 07/24/2013

1 Identification

· **Product identifier** 4100 Universal Clear 2.1 VOC.

· **Trade name:** 4100- 2.1 VOC Universal Clear

4101-4105 activators - pp. 11-20

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Southern Polyurethanes, Inc.

P.O. Box 1300

BLAIRSVILLE, GA 30514

USA

bkives@windstream.net

· **Information department:**

Product safety department.

706-781-2220 Normal business hours.

Barry@kives.net

· **Emergency telephone number:** 24 HOUR EMERGENCY CALL- CHEMTREC @ 1-800-424-9300.

2 Hazard(s) identification

· **Classification of the substance or mixture**



GHS02 Flame

H226 Flammable liquid and vapour.



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Harmful

Harmful by inhalation.



Irritant

Irritating to eyes and skin. May cause sensitisation by skin contact.

Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

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· Code letter and hazard designation of product:



Harmful

· Hazard-determining components of labeling:

UV

· Risk phrases:

Flammable.

Harmful by inhalation.

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

Wear suitable gloves.

Use only in well-ventilated areas.

Avoid release to the environment. Refer to special instructions/safety data sheets.

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 2

Fire = 2

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *2

Fire = 2

Reactivity = 0

3 Composition/information on ingredients

· Chemical characterization: Mixtures

· Description: Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:

	Acrylic Resin Blend	74.0%
	H226	
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene	14.0%
	H226; H315; H319	
104810-47-1	alpha-3-(2H-Benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenylpropionyl-omega-3-(3-(2H-benzo-triazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylen)	4.0%
	H373	
67-64-1	acetone	3.0%
	H225; H319; H336	

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41556-26-7	UV ⚠ H317	2.0%
122-99-6	2-Phenoxyethanol ⚠ H302; H319	1.0%
100-41-4	ethylbenzene ⚠ H225; ⚠ H332	1.0%
77-58-7	dibutyltin dilaurate ⚠ H301; ⚠ H314; H318	1.0%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents

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- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

67-64-1 acetone

PEL	2400 mg/m ³ , 1000 ppm
REL	590 mg/m ³ , 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m ³ , (750) NIC-500 ppm Long-term value: (1188) NIC-475 mg/m ³ , (500) NIC-200 ppm
BEI	

100-41-4 ethylbenzene

PEL	435 mg/m ³ , 100 ppm
REL	Short-term value: 545 mg/m ³ , 125 ppm Long-term value: 435 mg/m ³ , 100 ppm
TLV	Short-term value: 543 mg/m ³ , 125 ppm Long-term value: 87 mg/m ³ , 20 ppm
BEI	

77-58-7 dibutyltin dilaurate

PEL	0.1 mg/m ³ as Sn
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REL	0.1 mg/m ³ as Sn, Skin
TLV	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ as Sn; Skin

· Ingredients with biological limit values:

67-64-1 acetone

BEI	50 mg/L urine end of shift Acetone (nonspecific)
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100-41-4 ethylbenzene

BEI	0.7 g/g creatinine urine end of shift at end of workweek Sum of mandelic acid and phenylglyoxylic acid (nonspecific, semi-quantitative)
-	end-exhaled air not critical Ethyl benzene (semi-quantitative)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

· Form:	Liquid
· Color:	Clear
· Odor:	Characteristic
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	139 °C (282 °F)

· Flash point: 47 °C (117 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

· Lower:	Not determined.
· Upper:	Not determined.

· Vapor pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

· Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· Solvent content:

· Organic solvents:	19.0 %
· VOC content:	20.0 g/l / 0.17 lb/gal

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Solids content:	59.2 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

100-41-4 ethylbenzene

2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.

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- Harmful to aquatic organisms*
 · **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| <ul style="list-style-type: none"> · UN-Number · DOT · ADR, IMDG, IATA | <p>NA1993
 UN1993</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA | <p>COMBUSTIBLE LIQUID, N.O.S (Acrylic Resin Blend, ACETONE)
 1993 FLAMMABLE LIQUID, N.O.S. (Acrylic Resin Blend, ACETONE)
 FLAMMABLE LIQUID, N.O.S. (Acrylic Resin Blend, ACETONE)</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="display: flex; align-items: center; gap: 10px;">   </div> |
| <ul style="list-style-type: none"> · Class · Label | <p>3 Flammable liquids.
 3</p> |
| <ul style="list-style-type: none"> · ADR, IMDG, IATA | <div style="display: flex; align-items: center; gap: 10px;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p>3 Flammable liquids
 3</p> |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | <p>III</p> |
| <ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: | <p>No</p> |
| <ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: | <p>Warning: Flammable liquids
 30
 F-E,<u>S-E</u></p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | <p>Not applicable.</p> |

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· **Transport/Additional information:**

· **DOT**

· **Remarks:** Special marking with the symbol (fish and tree).

· **UN "Model Regulation":** UN1993, FLAMMABLE LIQUID, N.O.S. (Acrylic Resin Blend, ACETONE), 3, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

100-41-4 ethylbenzene

· **TSCA (Toxic Substances Control Act):**

98-56-6 4-chloro-alpha,alpha,alpha-trifluorotoluene

104810-47-1 alpha-3-(2H-Benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenylpropionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylen)

67-64-1 acetone

41556-26-7 UV

122-99-6 2-Phenoxyethanol

100-41-4 ethylbenzene

77-58-7 dibutyltin dilaurate

· **Proposition 65**

· **Chemicals known to cause cancer:**

100-41-4 ethylbenzene

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

67-64-1 acetone

I

100-41-4 ethylbenzene

D

· **TLV (Threshold Limit Value established by ACGIH)**

67-64-1 acetone

A4

100-41-4 ethylbenzene

A3

77-58-7 dibutyltin dilaurate

A4

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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Harmful

· **Hazard-determining components of labeling:**

UV

· **Risk phrases:**

Flammable.

Harmful by inhalation.

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

Wear suitable gloves.

Use only in well-ventilated areas.

Avoid release to the environment. Refer to special instructions/safety data sheets.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS:** Product safety department.

· **Contact:** Mr. Barry Kives

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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1 Identification

- **Product identifier**
- **Trade name:** 4101, 4102, 4103, 4104 Activators
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Southern Polyurethanes, Inc.
P.O. Box 1300
BLAIRSVILLE, GA 30514
USA
bkives@windstream.net
- **Information department:**
Product safety department.
706-781-2220 Normal business hours.
Barry@kives.net
- **Emergency telephone number:** 24 HOUR EMERGENCY CALL- CHEMTREC @ 1-800-424-9300.

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

H226 Flammable liquid and vapour.



GHS06 Skull and crossbones

H331 Toxic if inhaled.



GHS08 Health hazard

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Toxic

Toxic by inhalation.



Harmful

Harmful if swallowed.



Irritant

Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact.

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Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

· **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Code letter and hazard designation of product:**



Toxic

· **Risk phrases:**

Flammable.

Harmful if swallowed.

Toxic by inhalation.

Irritating to eyes, respiratory system and skin.

May cause sensitisation by inhalation and skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

Wear suitable gloves and eye/face protection.

In case of insufficient ventilation, wear suitable respiratory equipment.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Avoid release to the environment. Refer to special instructions/safety data sheets.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 2

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = *3

Fire = 2

Reactivity = 0

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

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· Dangerous components:		
98-56-6	4-chloro-alpha,alpha,alpha-trifluorotoluene ⚠ H226; ⚠ H315; H319	48.0%
822-06-0	hexamethylene-di-isocyanate ⚠ H331; ⚠ H334; ⚠ H315; H319; H317; H335	30.0%
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate ⚠ H331; ⚠ H334; ⚠ H315; H319; H317; H335	17.0%
4083-64-1	4-isocyanatosulphonyltoluene ⚠ H334; ⚠ H315; H319; H335	2.0%
110-43-0	heptan-2-one ⚠ H226; ⚠ H302; H332	1.0%
763-69-9	ethyl 3-ethoxypropionate H227	1.0%
108-65-6	2-methoxy-1-methylethyl acetate ⚠ H226	1.0%

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

- **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:** Immediately call a doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

- **For safety reasons unsuitable extinguishing agents:** Water with full jet

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

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Trade name: 4101, 4102, 4103, 4104 Activators

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6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

822-06-0 hexamethylene-di-isocyanate

REL	Short-term value: C 0.14* mg/m ³ , C 0.02* ppm Long-term value: 0.035 mg/m ³ , 0.005 ppm *10-min
TLV	0.034 mg/m ³ , 0.005 ppm

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4098-71-9 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate

REL Short-term value: 0.18 mg/m³, 0.02 ppm
 Long-term value: 0.045 mg/m³, 0.005 ppm
 Skin

TLV 0.045 mg/m³, 0.005 ppm

110-43-0 heptan-2-one

PEL 465 mg/m³, 100 ppm

REL 465 mg/m³, 100 ppm

TLV 233 mg/m³, 50 ppm

108-65-6 2-methoxy-1-methylethyl acetate

WEEL 50 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

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9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Color: Clear

- **Odor:** Product specific

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 139 °C (282 °F)

- **Flash point:** 47 °C (117 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 430 °C (806 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 0.7 Vol %

Upper: 9.5 Vol %

- **Vapor pressure:** Not determined.

- **Density at 20 °C (68 °F):** 1.19173 g/cm³ (9.945 lbs/gal)

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

- **Solvent content:**

Organic solvents: 50.0 %

VOC content: 23.8 g/l / 0.20 lb/gl

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

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- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

822-06-0 hexamethylene-di-isocyanate

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Harmful
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

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· **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· DOT, ADR, IMDG, IATA	UN1263
· UN proper shipping name	
· DOT, IMDG, IATA	PAINT RELATED MATERIAL
· ADR	1263 PAINT RELATED MATERIAL
· Transport hazard class(es)	
· DOT	
· Class	3 Flammable liquids.
· Packing group	
· DOT	un1263
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1263, PAINT RELATED MATERIAL

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture	
· Sara	
· Section 355 (extremely hazardous substances):	
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
· Section 313 (Specific toxic chemical listings):	
822-06-0	hexamethylene-di-isocyanate
4098-71-9	3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate
· TSCA (Toxic Substances Control Act):	
All ingredients are listed.	

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· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Toxic

· **Risk phrases:**

Flammable.

Harmful if swallowed.

Toxic by inhalation.

Irritating to eyes, respiratory system and skin.

May cause sensitisation by inhalation and skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Avoid contact with skin.

Wear suitable gloves and eye/face protection.

In case of insufficient ventilation, wear suitable respiratory equipment.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Avoid release to the environment. Refer to special instructions/safety data sheets.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing MSDS: Product safety department.**

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· Contact: Mr. Barry Kives**· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent*

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