

# SAFETY DATA SHEET

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name** : MIL-DTL-64159C Type II 2K Water Reducible Polyurethane CARC Green 383 34094 - Q1653, Q1876, Q2021, Q2079, Q2189

**Product code** : F93G504

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Material uses** : Paint or paint related material.  
: Industrial use only.

### 1.3 Details of the supplier of the safety data sheet

Mfg. in U.S.A and exported by:  
The Sherwin-Williams Company  
101 Prospect Avenue N.W.  
Cleveland, OH 44115

EU Only Representative: Valspar B.V.  
Zuiveringweg 89  
8243 PE Lelystad  
P.O. Box 2139  
The Netherlands  
Phone: +31 (0)320 29 22 00

**e-mail address of person responsible for this SDS** : sds@sherwin.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Center

**Telephone number** : +431 406 43 43

#### Supplier

**Telephone number** : +1 703-741-5970

**Hours of operation** : Emergency contact available 24 hours a day

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Sens. 1, H317

Repr. 1B, H360D

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.


See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms

:



Signal word

:

Danger

Hazard statements

:

May cause an allergic skin reaction.  
May damage the unborn child.

Precautionary statements

Prevention

:

Obtain special instructions before use. Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. Avoid breathing vapor.

Response

:

IF exposed or concerned: Get medical advice or attention. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water.

Storage

:

Not applicable.

Disposal

:

Not applicable.

Hazardous ingredients

:

1-Methyl-2-Pyrrolidone  
Mercaptopropyl Trimethoxysilane  
Glutaraldehyde

Supplemental label elements

:

FOR INDUSTRIAL USE ONLY

Special packaging requirements

Not applicable.

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other hazards which do not result in classification

:

None known.

SECTION 3: Composition/information on ingredients

3.2 Mixture

:

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
1-Methyl-2-Pyrrolidone	REACH #: 01-2119472430-46 EC: 212-828-1 CAS: 872-50-4 Index: 606-021-00-7	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360D STOT SE 3, H335	STOT SE 3, H335: C ≥ 10%	[1] [2]
Mercaptopropyl Trimethoxysilane	EC: 224-588-5 CAS: 4420-74-0	<2.5	Acute Tox. 4, H302 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	ATE [Oral] = 500 mg/kg	[1]
Triethylamine	REACH #: 01-2119475467-26 EC: 204-469-4 CAS: 121-44-8 Index: 612-004-00-5	<1	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335	ATE [Oral] = 460 mg/kg ATE [Dermal] = 300 mg/kg ATE [Inhalation (vapours)] = 3 mg/l STOT SE 3, H335: C ≥ 1%	[1] [2]

SECTION 3: Composition/information on ingredients

Glutaraldehyde	REACH #: 01-2119455549-26 EC: 203-856-5 CAS: 111-30-8 Index: 605-022-00-X	<0.1	Acute Tox. 3, H301 Acute Tox. 2, H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 2, H411 EUH071  <b>See Section 16 for the full text of the H statements declared above.</b>	ATE [Oral] = 134 mg/kg ATE [Inhalation (vapours)] = 0.5 mg/l STOT SE 3, H335: C ≥ 0.5% M [Acute] = 1 EUH071: C ≥ 5%	[1] [2] [3]
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures

4.1 Description of first aid measures

<b>General</b>	: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
<b>Eye contact</b>	: Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
<b>Inhalation</b>	: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
<b>Skin contact</b>	: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
<b>Ingestion</b>	: If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.
<b>Protection of first-aiders</b>	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation

**SECTION 4: First aid measures**

and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media** : Recommended: alcohol-resistant foam, CO<sub>2</sub>, powders, water spray or mist.
- Unsuitable extinguishing media** : Do not use water jet.

**5.2 Special hazards arising from the substance or mixture**

- Hazards from the substance or mixture** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.
- Hazardous combustion products** : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

**5.3 Advice for firefighters**

- Special protective actions for fire-fighters** : Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.
- Special protective equipment for fire-fighters** : Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.
- Keep unnecessary and unprotected personnel from entering.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**6.2 Environmental precautions**

- : Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

## SECTION 6: Accidental release measures

- 6.3 Methods and materials for containment and cleaning up** : Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Place in a suitable container. The contaminated area should be cleaned immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts) and concentrated (d: 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts) and water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in an unsealed container. Once this stage is reached, close container and dispose of according to local regulations (see section 13).
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**Persons with a history of asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used.**

**Examination of lung function should be carried out on a regular basis on persons spraying this mixture.**

- 7.1 Precautions for safe handling** : Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits.  
In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.  
Mixture may charge electrostatically: always use earthing leads when transferring from one container to another.  
Operators should wear antistatic footwear and clothing and floors should be of the conducting type.  
Care should be taken when re-opening partly-used containers. Precautions should be taken to minimize exposure to atmospheric humidity or water. CO<sub>2</sub> will be formed, which, in closed containers, could result in pressurization. Keep away from heat, sparks and flame. No sparking tools should be used.  
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding.  
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.  
Put on appropriate personal protective equipment (see Section 8).  
Never use pressure to empty. Container is not a pressure vessel.  
Always keep in containers made from the same material as the original one.  
Comply with the health and safety at work laws.  
Do not allow to enter drains or watercourses.  
**Information on fire and explosion protection**  
Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapors in all cases. In such circumstances, they should wear a compressed-air-fed respirator during the spraying process and until the particulate and solvent vapor concentrations have fallen below the exposure limits.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

: Store in accordance with local regulations.  
**Notes on joint storage**  
Keep away from: oxidizing agents, strong alkalis, strong acids.  
**Additional information on storage conditions**  
Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.  
Keep container tightly closed.  
Keep away from sources of ignition. No smoking. Prevent unauthorized access.  
Containers that have been opened must be carefully resealed and kept upright to prevent leakage.  
  
Contaminated absorbent material may pose the same hazard as the spilled product.  
Store above 5°C (42°F) Protect from frost.

7.3 Specific end use(s)

Recommendations

: Not available.

Industrial sector specific solutions

: Not available.

Good housekeeping standards, regular safe removal of waste materials and regular maintenance of spray booth filters will minimise the risks of spontaneous combustion and other fire hazards.

**Before use of this material please refer to the Exposure Scenario(s) if attached for the specific end use, control measures and additional PPE considerations.**

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits	
Product/ingredient name	Exposure limit values
1-Methyl-2-Pyrrolidone	<b>Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin.</b> TWA: 3.6 ppm 8 hours. STEL: 28.8 mg/m³, 4 times per shift, 15 minutes. STEL: 7.2 ppm, 4 times per shift, 15 minutes. TWA: 14.4 mg/m³ 8 hours.
Triethylamine	<b>Regulation on Limit Values - MAC (Austria, 4/2021).</b> TWA: 2 ppm 8 hours. TWA: 8.4 mg/m³ 8 hours. PEAK: 3 ppm, 4 times per shift, 15 minutes. PEAK: 12.6 mg/m³, 4 times per shift, 15 minutes.
Glutaraldehyde	<b>Regulation on Limit Values - MAC (Austria, 4/2021). Skin sensitizer. Inhalation sensitizer.</b> TWA: 0.05 ppm 8 hours. TWA: 0.2 mg/m³ 8 hours. CEIL: 0.05 ppm CEIL: 0.2 mg/m³

Biological exposure indices

No exposure indices known.

## SECTION 8: Exposure controls/personal protection

- Recommended monitoring procedures** :
- Reference should be made to monitoring standards, such as the following:  
European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
  - Regular monitoring of all work areas should be carried out at all times, including areas that may not be equally ventilated.

### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
1-Methyl-2-Pyrrolidone	DNEL	Long term Dermal	4.8 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	14.4 mg/m <sup>3</sup>	Workers	Systemic

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
1-Methyl-2-Pyrrolidone	Fresh water	0.25 mg/l	-
	Marine water	0.025 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0.805 mg/kg	-
	Marine water sediment	0.0805 mg/kg	-
	Soil	0.138 mg/kg	-

## 8.2 Exposure controls

**Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.**

**Examination of lung function should be carried out on a regular basis on persons spraying this mixture.**

- Appropriate engineering controls** :
- Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. Air-fed protective respiratory equipment must be worn by the spray operator, even when good ventilation is provided. In other operations, if local exhaust ventilation and good general extraction are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn. (See Occupational exposure controls.)
  - Users are advised to consider national Occupational Exposure Limits or other equivalent values.

### Individual protection measures

- Hygiene measures** :
- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

- Eye/face protection** :
- Use safety eyewear designed to protect against splash of liquids.

### Skin protection

- Hand protection** :
- Wear suitable gloves tested to EN374.

### **Gloves**

:

## SECTION 8: Exposure controls/personal protection

Gloves for short term exposure/splash protection (less than 10 min): Nitrile >0.35 mm  
Gloves for splash protection need to be changed immediately when in contact with chemicals.  
For long term exposure or spills (breakthrough time >480 min): Use PE laminate gloves as under gloves.  
Due to many conditions (e.g. temperature, abrasion) the practical usage of a chemical protective glove in practice may be much shorter than the permeation time determined through testing.  
There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.  
The breakthrough time must be greater than the end use time of the product.  
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.  
Gloves should be replaced regularly and if there is any sign of damage to the glove material.  
Always ensure that gloves are free from defects and that they are stored and used correctly.  
The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.  
Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.  
The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

### Body protection

- : Personnel should wear antistatic clothing made of natural fibers or of high-temperature-resistant synthetic fibers.
- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

### Respiratory protection

- : Application methods:  
Brush or roller. Approved/certified respirator with organic vapor cartridge. Filter type: A2 P2 (EN14387).  
Manual spraying. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

### Environmental exposure controls

- : Do not allow to enter drains or watercourses.

**Before use of this material please refer to the Exposure Scenario(s) if attached for the specific end use, control measures and additional PPE considerations. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.**

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	: Liquid.
Color	: Green.
Odor	: Characteristic.
Odor threshold	: Not available.
pH	: 9



## SECTION 9: Physical and chemical properties

<b>Melting point/freezing point</b>	: Not relevant/applicable due to nature of the product.
<b>Initial boiling point and boiling range</b>	: 100°C
<b>Flash point</b>	: Closed cup: Not applicable.
<b>Evaporation rate</b>	: 0.09 (butyl acetate = 1)
<b>Flammability</b>	: Not relevant/applicable due to nature of the product.
<b>Lower and upper explosion limit</b>	: LEL: 2.2% (1-Methyl-2-Pyrrolidone) UEL: 12.3% (1-Methyl-2-Pyrrolidone)
<b>Vapor pressure</b>	: 2.3 kPa (17.5 mm Hg)
<b>Relative vapor density</b>	: 1 [Air = 1]
<b>Relative density</b>	: 1.31
<b>Solubility(ies)</b>	:

Media	Result
cold water	Partially soluble

<b>Partition coefficient: n-octanol/ water</b>	: Not relevant/applicable due to nature of the product.
<b>Auto-ignition temperature</b>	: Not relevant/applicable due to nature of the product.
<b>Decomposition temperature</b>	: Not relevant/applicable due to nature of the product.
<b>Viscosity</b>	: Kinematic (40°C): >20.5 mm²/s
<b>Explosive properties</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Oxidizing properties</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not relevant/applicable due to nature of the product.

### 9.2 Other information

<b>Heat of combustion</b>	: 1.416 kJ/g
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## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: The product reacts slowly with water, resulting in the production of carbon dioxide.
<b>10.2 Chemical stability</b>	: Stable under recommended storage and handling conditions (see Section 7).
<b>10.3 Possibility of hazardous reactions</b>	: In closed containers, pressure buildup could result in distortion, expansion and, in extreme cases, bursting of the container.
<b>10.4 Conditions to avoid</b>	: In a fire, hazardous decomposition products may be produced.
<b>10.5 Incompatible materials</b>	: Keep away from: oxidizing agents, strong alkalis, strong acids, amines, alcohols, water. Uncontrolled exothermic reactions occur with amines and alcohols.
<b>10.6 Hazardous decomposition products</b>	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen, hydrogen cyanide, monomeric isocyanates.

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

There are no data available on the mixture itself. Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the isocyanate components and considering toxicological data on similar mixtures, this mixture may cause acute irritation and/or sensitization of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability. Repeated or prolonged contact with irritants may cause dermatitis.

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
1-Methyl-2-Pyrrolidone	LD50 Dermal	Rabbit	8 g/kg	-
	LD50 Oral	Rat	3914 mg/kg	-
Triethylamine	LD50 Oral	Rat	460 mg/kg	-
Glutaraldehyde	LC50 Inhalation Vapor	Rat	480 mg/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	134 mg/kg	-

**Acute toxicity estimates**

Route	ATE value
Oral	24261.11 mg/kg
Dermal	63528.27 mg/kg
Inhalation (vapors)	635.28 mg/l

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
1-Methyl-2-Pyrrolidone	Eyes - Moderate irritant	Rabbit	-	100 mg	-
Mercaptopropyl	Skin - Mild irritant	Rabbit	-	500 mg	-
Trimethoxysilane					
Triethylamine	Skin - Mild irritant	Rabbit	-	365 mg	-
Glutaraldehyde	Eyes - Severe irritant	Rabbit	-	1 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 250 ug	-
	Skin - Mild irritant	Rabbit	-	13 mg	-
	Skin - Severe irritant	Human	-	72 hours 6 mg l	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 mg	-

**Conclusion/Summary** : Not available.

**Sensitization**

No data available

**Conclusion/Summary** : Not available.

**Mutagenicity**

SECTION 11: Toxicological information

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
1-Methyl-2-Pyrrolidone	Category 3	-	Respiratory tract irritation
Triethylamine	Category 3	-	Respiratory tract irritation
Glutaraldehyde	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

No data available

Aspiration hazard

No data available

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

There are no data available on the mixture itself.  
Do not allow to enter drains or watercourses.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
1-Methyl-2-Pyrrolidone	Acute LC50 1.23 ppm Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 832 ppm Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
Glutaraldehyde	Acute EC50 0.75 ppm Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 5.4 ppm Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Chronic NOEC 3.41 ppm	Fish - <i>Oncorhynchus mykiss</i>	97 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
No data available				

Conclusion/Summary : Not available.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
No data available			

12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Triethylamine	-	<0.5	Low

12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

**European waste catalogue (EWC)** : waste isocyanates 08 05 01\*

**Disposal considerations** : Do not allow to enter drains or watercourses. Residues in empty containers should be neutralized with a decontaminant (see section 6). Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

Packaging

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Disposal considerations** : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

**European waste catalogue (EWC)** : packaging containing residues of or contaminated by hazardous substances 15 01 10\*

SECTION 13: Disposal considerations

Special precautions

: This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport Hazard Class(es)/ Label(s)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.
Additional information	-	-	-

*This mixture is not classified as dangerous according to international transport regulations (ADR/RID, IMDG, ICAO/IATA).*

14.6 Special precautions for user

: **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Maritime transport in bulk according to IMO instruments

: Not applicable.

*Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.*

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

SECTION 15: Regulatory information

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
1-Methyl-2-Pyrrolidone Glutaraldehyde	Toxic to reproduction Substance of equivalent concern for human health	Recommended Candidate	ED/79/2015 -	2/5/2018 -

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

Product/ingredient name	%	Designation [Usage]
MIL-DTL-64159C Type II 2K Water Reducible Polyurethane CARC Green 383 34094	≥90	3 30
N-methyl-2-pyrrolidone	≤5	30 71 72
methanol	<0.1	69
formaldehyde	<0.1	72

**Labeling**
: Restricted to professional users.

**Other EU regulations**

**VOC content (2010/75/EU)**
: 3.7 w/w  
49 g/l

**Explosive precursors**
: Not applicable.


**Seveso Directive**

This product is not controlled under the Seveso Directive.

**National regulations**

**15.2 Chemical Safety Assessment**
: No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

 Indicates information that has changed from previously issued version.

<b>Abbreviations and acronyms</b>	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative N/A = Not available
<b>Key literature references and sources for data</b>	: Regulation (EC) No. 1272/2008 [CLP] ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2020/878 Directive 2012/18/EU, and relative amendments & additions Directive 2008/98/EC, and relative amendments & additions Directive 2009/161/EU, and relative amendments & additions CEPE Guidelines

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

SECTION 16: Other information

Classification	Justification
Skin Sens. 1, H317 Repr. 1B, H360D	Calculation method Calculation method

<b>Full text of abbreviated H statements</b>	: H225 H301 H302 H311 H314 H315 H317 H318 H319 H330 H331 H334  H335 H360D H400 H411 EUH071	Highly flammable liquid and vapor. Toxic if swallowed. Harmful if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Causes serious eye irritation. Fatal if inhaled. Toxic if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.  May cause respiratory irritation. May damage the unborn child. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. Corrosive to the respiratory tract.
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<b>Full text of classifications [CLP/GHS]</b>	: Acute Tox. 2 Acute Tox. 3 Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 2 Eye Dam. 1 Eye Irrit. 2 Flam. Liq. 2 Repr. 1B Resp. Sens. 1 Skin Corr. 1A Skin Corr. 1B Skin Irrit. 2 Skin Sens. 1 Skin Sens. 1A Skin Sens. 1B STOT SE 3	ACUTE TOXICITY - Category 2 ACUTE TOXICITY - Category 3 ACUTE TOXICITY - Category 4 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 TOXIC TO REPRODUCTION - Category 1B RESPIRATORY SENSITIZATION - Category 1 SKIN CORROSION/IRRITATION - Category 1A SKIN CORROSION/IRRITATION - Category 1B SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1A SKIN SENSITIZATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3
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<b>Version</b>	: 10.02

Notice to reader

In accordance with Regulation (EC) 1907/2006, REACH Regulation, Articles 31, 37, any required hazard-related information on the use of substances received as downstream user will be sent forward. Consequently, the safety data sheets for some products will contain a SUMI - Safe Use of Mixture Information - attached to the safety data sheet.

**Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II**

MIL-DTL-64159C Type II 2K Water Reducible Polyurethane CARC Green 383 34094 - Q1653, Q1876, Q2021, Q2079, Q2189

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## **SECTION 16: Other information**

**SUMI(s) will be added to the SDS for products if both the following conditions are met:**

- **The product is classified as hazardous for health**
- **The product contains one or more REACH-registered substances for which extended safety data sheets (exposure scenarios) have been provided**

***It is recommended that each customer or recipient of this Safety Data Sheet (SDS) study it carefully and consult resources, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. This information is provided in good faith and believed to be accurate as of the effective date herein. However, no warranty, express or implied, is given. The information presented here applies only to the product as shipped. The addition of any material can change the composition, hazards and risks of the product. Products shall not be repackaged, modified, or tinted except as specifically instructed by the manufacturer, including but not limited to the incorporation of products not specified by the manufacturer, or the use or addition of products in proportions not specified by the manufacturer. Regulatory requirements are subject to change and may differ between various locations and jurisdictions. The customer/buyer/user is responsible to ensure that his activities comply with all country, federal, state, provincial or local laws. The conditions for use of the product are not under the control of the manufacturer; the customer/buyer/user is responsible to determine the conditions necessary for the safe use of this product. The customer/buyer/user should not use the product for any purpose other than the purpose shown in the applicable section of this SDS without first referring to the supplier and obtaining written handling instructions. Due to the proliferation of sources for information such as manufacturer-specific SDS, the manufacturer cannot be responsible for SDSs obtained from any other source.***