

Printing date 05/23/2018

Reviewed on 10/24/2017

## 1 Identification

- **Product identifier**
- **Trade name:** TCC8020A Urethane
- **Article number:** 1079109
- **Application of the substance / the mixture** Polyurethane resin
- **Details of the supplier of the safety data sheet** SikaAxson US - EHS Department
- **Manufacturer/Supplier:**  
Company Name: Axson Technologies US, Inc.-SikaAxson

Headquarters:  
 31200 Stephenson Hwy  
 Madison Heights, MI 48071  
 USA

Manufacturing Site:  
 1611 Hults Drive  
 Eaton Rapids, MI 48827  
 USA  
 ehs-us@axson.com

- **Information department:** Product safety department
- **Emergency telephone number:**  
 During normal opening times: +1 (248) 588-2270  
 CHEMTREC 24-hour Emergency: +1 (800) 424-9300

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: TCC8020A Urethane

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## · Hazard pictograms



GHS07 GHS08

· Signal word *Danger*

## · Hazard-determining components of labeling:

4,4'-methylenediphenyl diisocyanate  
methylenediphenyl diisocyanate

## · Hazard statements

Harmful if inhaled.

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

May cause respiratory irritation.

May cause damage to organs through prolonged or repeated exposure.

## · Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves / eye protection / face protection.

[In case of inadequate ventilation] wear respiratory protection.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

## · Classification system:

## · NFPA ratings (scale 0 - 4)



Health = 3

Fire = 1

Reactivity = 0

## · HMIS-ratings (scale 0 - 4)



Health = \*3

Fire = 1

Reactivity = 0

## · Other hazards

## · Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 101-68-8 EINECS: 202-966-0	4,4'-methylenediphenyl diisocyanate	20-50%
CAS: 68515-45-7	Dinonyl phthalate	20-50%
CAS: 26447-40-5 EINECS: 247-714-0	methylenediphenyl diisocyanate	≥1-<5%

### 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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.  
Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide (HCN)
- **Advice for firefighters**
- **Protective equipment:**  
Mouth respiratory protective device.  
Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** 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.
- **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.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

101-68-8	4,4'-methylenediphenyl diisocyanate	0.45 mg/m <sup>3</sup>
26447-40-5	methylenediphenyl diisocyanate	29 mg/m <sup>3</sup>

- **PAC-2:**

101-68-8	4,4'-methylenediphenyl diisocyanate	5 mg/m <sup>3</sup>
26447-40-5	methylenediphenyl diisocyanate	40 mg/m <sup>3</sup>

- **PAC-3:**

101-68-8	4,4'-methylenediphenyl diisocyanate	55 mg/m <sup>3</sup>
26447-40-5	methylenediphenyl diisocyanate	240 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **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.
- **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:**  
 The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.  
 At this time, the remaining constituent has no known exposure limits.

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**101-68-8 4,4'-methylenediphenyl diisocyanate**

PEL	Ceiling limit value: 0.2 mg/m <sup>3</sup> , 0.02 ppm
REL	Long-term value: 0.05 mg/m <sup>3</sup> , 0.005 ppm Ceiling limit value: 0.2* mg/m <sup>3</sup> , 0.02* ppm *10-min
TLV	Long-term value: 0.051 mg/m <sup>3</sup> , 0.005 ppm

**68515-45-7 Dinonyl phthalate**

TWA	Long-term value: 5 mg/m <sup>3</sup>
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· **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:	Amber colored
· Odor:	Musty
· Odor threshold:	Not determined.

· pH-value: Not determined.

#### · Change in condition

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	208 °C (406.4 °F)

· Flash point: 200 °C (392 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 520 °C (968 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

#### · Explosion limits:

· Lower:	0.4 Vol %
· Upper:	0.0 Vol %

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 1.23 g/cm<sup>3</sup> (10.26 lbs/gal)

· Relative density: Not determined.

· Vapor 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 at 20 °C (68 °F):	45 mPas
· Kinematic:	Not determined.

#### · Solvent content:

· VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gl

· Solids content: 44.5 %

· Other information: No further relevant information available.

## 10 Stability and reactivity

· Reactivity: No further relevant information available.

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
Violent reactions with -NHx, -OH and -SH- groups.  
In the presence of water or humidity gas (CO2) is produced and/or uncontrolled polymerization, possibly leading to internal pressure rises and consequent risk of container breach.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
Nitrogen oxides  
Carbon monoxide and carbon dioxide  
(possible HCN)

## 11 Toxicological information

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

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

Oral	LD50	>10,000 mg/kg (rat)
Inhalative	LC50/4 h	>2,240 mg/l (rat)

### 101-68-8 4,4'-methylenediphenyl diisocyanate

Oral	LD50	2,200 mg/kg (mouse)
Dermal	LD50	>9,400 mg/kg (rabbit)
Inhalative	LC50/4 h	2 mg/l (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:  
Harmful  
Irritant

- **Carcinogenic categories**

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

101-68-8	4,4'-methylenediphenyl diisocyanate	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.
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- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.
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## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

48 hr EC50 >500 mg/l (daphnia)

96 hr LC50 >500 mg/l (Fish)

· **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.

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **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, ADN, IMDG, IATA** not regulated

· **UN proper shipping name**

· **DOT, ADN, IMDG, IATA** not regulated

· **Transport hazard class(es)**

· **DOT, ADN, IMDG, IATA**

· **Class** not regulated

· **Packing group**

· **DOT, IMDG, IATA** not regulated

· **Environmental hazards:**

· **Marine pollutant:** Yes

· **Special precautions for user** Not applicable.

· **Stowage Category** A

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- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** not regulated

## 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):**  
101-68-8 | 4,4'-methylenediphenyl diisocyanate

· **TSCA (Toxic Substances Control Act) (Substances not listed):**  
All ingredients are listed.

· **Chemicals regulated by TSCA Section 12(b)**  
None of the ingredients is listed.

· **Chemical regulated by TSCA 5(a)(2)rule:**  
None of the ingredients is listed.

· **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)**  
101-68-8 | 4,4'-methylenediphenyl diisocyanate | D, CBD

· **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.

· **Listed in CWC Regulations**  
None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**

GHS07 GHS08

· **Signal word** *Danger*· **Hazard-determining components of labeling:**

4,4'-methylenediphenyl diisocyanate  
methylenediphenyl diisocyanate

· **Hazard statements**

*Harmful if inhaled.*

*Causes skin irritation.*

*Causes serious eye irritation.*

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

*May cause an allergic skin reaction.*

*May cause respiratory irritation.*

*May cause damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Do not breathe dust/fume/gas/mist/vapors/spray.*

*Wear protective gloves / eye protection / face protection.*

*[In case of inadequate ventilation] wear respiratory protection.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Call a poison center/doctor if you feel unwell.*

*If experiencing respiratory symptoms: Call a poison center/doctor.*

*Wash contaminated clothing before reuse.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***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.*

· **Date of preparation / last revision** 05/23/2018 / 5· **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*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*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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*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Acute Tox. 4: Acute toxicity – Category 4*  
*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*  
*Resp. Sens. 1: Respiratory sensitisation – Category 1*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*  
*STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

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