

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

### 1 Identification

- **Product identifier**
- **Trade name:** HH Extreme Isocyanate
- **Article number:** I024705-1
- **Application of the substance / the mixture** Polyurethane resin
- **Details of the supplier of the safety data sheet**  
Sika Advanced Resins, US  
EHS Department
- **Manufacturer/Supplier:**  
Supplier's Name: Sika Advanced Resins, US  
Headquarters:  
30800 Stephenson Hwy  
Madison Heights, MI 48071  
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.

Carc. 2 H351 Suspected of causing cancer.

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



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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).

(Contd. on page 2)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(Contd. of page 1)

· **Hazard pictograms**

GHS07 GHS08

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

4,4'-methylenediphenyl diisocyanate

DTDP

1,2-Benzenedicarboxylic acid, di-C11-14BR alkyl ester

Homopolymer of methylenediphenyl diisocyanate

· **Hazard statements***Harmful if swallowed or 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.**Suspected of causing cancer.**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/protective clothing/eye protection/face protection.**[In case of inadequate ventilation] wear respiratory protection.**If swallowed: Call a poison center/doctor if you feel unwell.**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.**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 = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = \*2

Fire = 0

Reactivity = 0

(Contd. on page 3)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

**Trade name: HH Extreme Isocyanate**

(Contd. of page 2)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                                                               |             |
|------------------------------------|---------------------------------------------------------------|-------------|
| CAS: 101-68-8<br>EINECS: 202-966-0 | 4,4'-methylenediphenyl diisocyanate                           | 50-100%     |
| CAS: 68515-47-9                    | DTDP<br>1,2-Benzenedicarboxylic acid, di-C11-14BR alkyl ester | 10-20%      |
| CAS: 25686-28-6                    | Homopolymer of methylenediphenyl diisocyanate                 | 10-20%      |
| CAS: 128-37-0<br>EINECS: 204-881-4 | Butylated hydroxytoluene                                      | ≥0.1-<0.25% |

### 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.
- **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:** 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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.

(Contd. on page 4)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

**Trade name: HH Extreme Isocyanate**

(Contd. of page 3)

Use fire fighting measures that suit the environment.

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

During heating or in case of fire poisonous gases are produced.

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.

### 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.

· **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> |
|----------|-------------------------------------|------------------------|

· **PAC-2:**

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

· **PAC-3:**

|          |                                     |                      |
|----------|-------------------------------------|----------------------|
| 101-68-8 | 4,4'-methylenediphenyl diisocyanate | 55 mg/m <sup>3</sup> |
|----------|-------------------------------------|----------------------|

### 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 respiratory protective device available.

(Contd. on page 5)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(Contd. of page 4)

- **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 other constituents have no known exposure limits.

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

#### 128-37-0 Butylated hydroxytoluene

|     |                                                                           |
|-----|---------------------------------------------------------------------------|
| REL | Long-term value: 10 mg/m <sup>3</sup>                                     |
| TLV | Long-term value: 2* mg/m <sup>3</sup><br>*as inhalable fraction and vapor |

- **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.

(Contd. on page 6)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(Contd. of page 5)

· **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

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Amber colored   |
| <b>Odor:</b>           | Characteristic  |
| <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

· **Change in condition**

|                                     |                   |
|-------------------------------------|-------------------|
| <b>Melting point/Melting range:</b> | Undetermined.     |
| <b>Boiling point/Boiling range:</b> | 208 °C (406.4 °F) |

· **Flash point:** Not applicable.

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

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

· **Decomposition temperature:** Not determined.

(Contd. on page 7)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(Contd. of page 6)

|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |                                               |
| Lower:                                            | 0.4 Vol %                                     |
| Upper:                                            | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 0.1 hPa (0.1 mm Hg)                           |
| · <b>Density at 20 °C (68 °F):</b>                | 1.17 g/cm <sup>3</sup> (9.76 lbs/gal)         |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.             |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |                                               |
| Dynamic:                                          | Not determined.                               |
| Kinematic:                                        | Not determined.                               |
| · <b>Solvent content:</b>                         |                                               |
| Organic solvents:                                 | 0.4 %                                         |
| VOC content:                                      | 0.40 %                                        |
|                                                   | 4.7 g/l / 0.04 lb/gal                         |
| · <b>Solids content:</b>                          | 0.0 %                                         |
| · <b>Other information</b>                        | No further relevant information available.    |

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **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 (CO<sub>2</sub>) 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

(Contd. on page 8)

US

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(possible HCN)

(Contd. of page 7)

### 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

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

|        |      |                       |
|--------|------|-----------------------|
| Oral   | LD50 | 2,200 mg/kg (mouse)   |
| Dermal | LD50 | >9,400 mg/kg (rabbit) |

- **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 |
| 128-37-0 | Butylated hydroxytoluene            | 3 |

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

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.

- **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.

(Contd. on page 9)



## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

**Trade name: HH Extreme Isocyanate**

(Contd. of page 8)

*Danger to drinking water if even small quantities leak into the ground.*

· **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:** No

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

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

not regulated

US

(Contd. on page 10)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: HH Extreme Isocyanate

(Contd. of page 9)

### 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):

All components have the value ACTIVE.

#### · 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.

#### · Hazardous Air Pollutants

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

98-82-8 cumene

#### · Proposition 65

#### · Chemicals known to cause cancer:

98-82-8 cumene

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)

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

D, CBD

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

128-37-0 Butylated hydroxytoluene

A4

#### · 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).

(Contd. on page 11)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

Trade name: **HH Extreme Isocyanate**

(Contd. of page 10)

· **Hazard pictograms**

GHS07 GHS08

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

4,4'-methylenediphenyl diisocyanate

DTDP

1,2-Benzenedicarboxylic acid, di-C11-14BR alkyl ester

Homopolymer of methylenediphenyl diisocyanate

· **Hazard statements***Harmful if swallowed or 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.**Suspected of causing cancer.**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/protective clothing/eye protection/face protection.**[In case of inadequate ventilation] wear respiratory protection.**If swallowed: Call a poison center/doctor if you feel unwell.**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.**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** 10/19/2019 / 5· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

(Contd. on page 12)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 10/19/2019

Reviewed on 10/19/2019

**Trade name: HH Extreme Isocyanate**

(Contd. of page 11)

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  
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  
Carc. 2: Carcinogenicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
· **\* Data compared to the previous version altered.**

US