

Safety Data Sheet acc. to OSHA HCS

Print Date 03/07/2017

Revision Date 03/07/2017

- **Product Identifier**
 - **Trade Name:** UR3001HP2 Clear A
 - **Application of the Substance or Mixture:** Isocyanates
- **Details of the Supplier of the Safety Data Sheet (SDS)**
 - **Manufacturer or Supplier:**
Resinlab, LLC
N109 W13300 Ellsworth Drive,
Germantown, WI 53022
1-800-388-8605
www.resinlab.com
 - **Information Department:** Product Safety Department: msds@resinlab.com
 - **Emergency Telephone Number:**
North America - Chemtrec: 1-800-424-9300 (24 hours)
International - Chemtrec: 01-703-527-3887 (24 hours)

2 Hazard(s) identification

- **Hazard Classification**
 - Acute Tox. 4 H332 Harmful if inhaled.
 - Skin Irrit. 2 H315 Causes skin irritation.
 - Eye Irrit. 2A H319 Causes serious eye irritation.
 - Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - Skin Sens. 1 H317 May cause an allergic skin reaction.
 - STOT SE 3 H335 May cause respiratory irritation.
 - STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.
- **Label Elements**
 - **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
 - **Pictogram(s)**



GHS07 GHS08

- **Signal Word** Danger
- **Hazard-determining Component(s)**
Diglycidyl ether of neopentyl glycol
Methylene diphenyl diisocyanate
4,4'-diisocyanatodiphenylmethane
- **Hazard statements**
 - H332 Harmful if inhaled.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.
 - H373 May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**
 - Do not breathe dust/fume/gas/mist/vapors/spray.
 - In case of inadequate ventilation wear respiratory protection.
 - Wear protective gloves / eye protection / face protection.
 - Wash thoroughly after handling.
 - Use only outdoors or in a well-ventilated area.
 - Contaminated work clothing must not be allowed out of the workplace.
 - 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.
 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
 - If skin irritation or rash occurs: Get medical advice/attention.
 - If eye irritation persists: Get medical advice/attention.
 - Get medical advice/attention if you feel unwell.
 - Store locked up.
 - Store in a well-ventilated place. Keep container tightly closed.
 - Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Hazard Rating System**
 - **NFPA System**
 - **NFPA Ratings (scale 0 - 4)**



NFPA special hazards (water reactivity and oxidizing property): None

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· HMIS System

· HMIS Ratings (scale 0 - 4)

HEALTH	*2
FIRE	1
REACTIVITY	0

 Health = *2
 Fire = 1
 Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical Characterization: Mixtures

· Composition/Information on Ingredients

CAS: 101-68-8 EINECS: 202-966-0 Index Number: 615-005-00-9 RTECS: NQ 9350000	4,4'-diisocyanatodiphenylmethane Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	5-<10%
CAS: 26447-40-5 EINECS: 247-714-0 Index Number: 615-005-00-9	Methylene diphenyl diisocyanate Flam. Liq. 3, H226 Resp. Sens. 1, H334; STOT RE 2, H373 Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335 Eye Dam. 2B, H320	5-<10%

4 First-aid measures

· Description of First Aid Measures

· General Information

Symptoms may be delayed several hours after exposure; victims should be medically observed for at least 48 hours after exposure. Ensure medical personnel are aware of exposure and take precautions for their personal protection; see Section 8 for the information of personal protection.

· After Inhalation

Remove victim from exposure to fresh air. Keep person at rest. Provide oxygen if person is not breathing. In case of unconsciousness place patient stably in side position for transportation. Seek medical advice if any symptoms develop.

· After Skin Contact

Remove all contaminated clothing and wash before reuse. Wash contaminated skin with water and soap and rinse thoroughly. Polyglycol based skin cleanser or corn oil may be more effective than soap and water. Seek medical treatment in case of complaints.

· After Eye Contact

Immediately bathe eyes for 15 minutes under running water. Immediately remove contact lenses if present. Continue rinsing. Seek medical advice.

· After Swallowing

If victim is unconscious; never give anything by mouth. If victim is conscious; rinse out mouth and give victim small amounts of water. Do NOT induce vomiting. Get medical attention

· Information for Doctor

- Indication of any Immediate Medical Attention and Special Treatment Needed
- Check section 11 Toxicological Information for further relevant information.

5 Fire-fighting measures

· Extinguishing Media

· Suitable Extinguishing Agent(s)

Use fire fighting measures and extinguishing agents that suit the environment. In case of fire, suitable extinguishing agents are:
 Alcohol resistant foam.
 Dry chemical or fire-extinguishing powder.
 Carbon dioxide (CO₂).
 Water spray or water fog.

· Unsuitable Extinguishing Agent(s) No relevant information.

· Special Hazards Arising in Fire

In case of fire, following can be released:
 Isocyanates
 Carbon oxides and Nitrogen oxides
 Hydrogen cyanide (HCN)

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- **Advice for Firefighters**
As with any fire, wear positive-pressure self-contained breathing apparatus and full protective gear that are NIOSH approved.
- **Additional Information** Ensure adequate and functional fire fighting facilities equipped in working area at all times.

6 Accidental release measures

- **Personal Precautions**
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during use.
Ensure personnel take precautions for their personal protection during clean up; see Section 8 for the specific requirements.
- **Environmental Precautions** No further relevant information.
- **Cleaning Up Methods**
Absorb spills with inert materials like sand and or vermiculite.
Dispose contaminated chemicals as waste according to Section 13.
- **Additional Information**
Absorb with materials such as: Dirt, Vermiculite, Sand, Clay. Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums, Plastic drums, Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%. OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure.

7 Handling and storage

- **Handling**
 - **Precautions for Safe Handling**
Ensure good ventilation and/or exhaustion at workplace.
Keep away from incompatible material(s).
Avoid any release into the environment.
Keep container tightly closed when not in use if product is volatile so as to generate hazardous atmosphere.
Observe all the personal protection requirements in Section 8.
 - **Information about Protection Against Explosions and Fires**
Keep away from heat, sparks, open flame and other ignition sources during handling.
- **Storage**
 - **Requirements to be Met by Storerooms and Receptacles**
Store in a well-ventilated place; provide ventilation for receptacles.
Keep stored in accordance with local, regional, national, and international regulations.
 - **Additional Information** No further relevant information.

8 Exposure controls/personal protection

· Engineering Measures or Controls

· Exposure Limit Values that Require Monitoring at the Workplace

101-68-8 4,4'-diisocyanatodiphenylmethane

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

· Other Engineering Measures or Controls

Ventilation rates should be matched to conditions.
If applicable, use process enclosure(s), local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

· Personal Protective

· General Protective and Hygienic Measures

Avoid any contact with eye.
Do not eat, drink or smoke during work.
Use of this material at elevated temperatures or aerosol/spray applications may require additional precautions.
Clean hands and exposed skin thoroughly after work and before breaks.

· Personal Protective Equipment (PPE)

· Breathing Equipment

Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits.
Use a NIOSH approved air-purifying organic vapor respirator if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air supplied respirator.
Observe OSHA regulations (29CFR 1910.134) for respirator use.

· Hand Protection

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.

Nitrile Gloves

Butyl Rubber Gloves

· **Eye Protection** tightly sealed goggles

· **Body Protection** Appropriate chemical resistant clothing.

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Additional Information

All protective clothing (suits, gloves, footwear, headgear) should be clean, available every day, and put on before work.
 The Engineering measures or controls, and PPE recommendations are only guidelines and may not apply to every situation. For additional information, please consult the corresponding requirements under OSHA 29 CFR 1910.94-95, and 29 CFR 1910.132-138.

9 Physical and chemical properties

Information on Basic Physical and Chemical Properties

Appearance:	
Form:	Liquid
Color:	Light yellow
Odor:	Mild
Odor Threshold:	Not determined.

PH-Value:	Not determined.
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Change in Condition:	
Melting Point:	Not determined.
Boiling Point:	Not determined.
Flash Point:	> 200 °C (> 392 °F)
Decomposition Temperature:	Not determined.
Flammability:	Not determined.
Explosion:	Not determined.
Explosion Limits:	
Lower:	Not determined.
Upper:	Not determined.

Vapor Pressure:	Not determined.
Vapor Density:	not determined
Density at 20 °C (68 °F):	0.99 g/cm³ (8.262 lbs/gal)
Solubility in or Miscibility with Water:	Not miscible or difficult to mix.
Segregation coefficient LogPow (n-octanol/water):	Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.

Additional Information	No further relevant information.
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10 Stability and reactivity

Physical Hazard(s) Not a regulated reactive or physical hazard under GHS.

Hazardous Reactivity and Chemical Stability

Diisocyanates react with many materials and the rate of reaction increases with temperatures as well as increased contact; these reactions can become violent.

Thermal Decomposition and Conditions to be Avoided

Keep away from incompatible material(s).

Keep away from water and moisture.

Thermally decomposes during fire or high heat; keep away from heat, sparks, open flame and other ignition sources.

Possibility of Other Hazardous Reaction(s)

May slowly react with water and release carbon dioxide (CO₂).

May polymerize in contact with water or moisture.

Incompatible Material(s)

Acids
 Amines
 Alcohols
 Ammonia
 Water
 Metals

Hazardous Decomposition Product(s)

Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.

Additional Information No further relevant information.

11 Toxicological information

Acute Toxicity

Oral

3648-20-2 Diundecyl phthalate (DUP)

Oral LD50 > 15800 mg/kg (rat) (No mortality found)
 The substance was not classified as an acute oral hazard.
 Reference: ECHA (2011).

101-68-8 4,4'-diisocyanatodiphenylmethane

Oral LD50 2200 mg/kg (mouse)

26447-40-5 Methylene diphenyl diisocyanate

Oral LD50 (Read-across from CAS 101-68-8)

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39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Oral LD50 (No data available)

Potential Health Effect(s):

Not a classified acute oral hazard.

See acute inhalative effect(s) for further information

Dermal
3648-20-2 Diundecyl phthalate (DUP)

 Dermal LD50 (rat) (LD0/OECD TG 402) ≥ 2000 mg/kg; No mortality found)

No mortality or any health effects found in males or females; the substance was not classified as an acute dermal hazard.

Reference: ECHA (2011).

101-68-8 4,4'-diisocyanatodiphenylmethane

 Dermal LD50 > 9400 mg/kg (rabbit) (OECD TG 402)

26447-40-5 Methylene diphenyl diisocyanate

Dermal LD50 (Read-across from CAS 101-68-8)

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Dermal LD50 (No data available)

Potential Health Effect(s):

Not a classified acute dermal hazard.

See acute inhalative effect(s) for further information.

Inhalative
3648-20-2 Diundecyl phthalate (DUP)

Inhalative LC50/4 h (rat) (No mortality found at the saturated concentration)

 LC0/6 hours (150 °C) > 1.8 mg/L

No mortality was observed up to the saturated vapor concentration of 1.8 mg/L; the substance was not classified as

an acute inhalative hazard.

Reference: ECHA (2011).

101-68-8 4,4'-diisocyanatodiphenylmethane

Inhalative LC50/4 h 0.39 mg/l (rat) (no test detail available)

Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

26447-40-5 Methylene diphenyl diisocyanate

Inhalative LC50/4 h (Read-across from CAS 101-68-8)

The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Inhalative LC50/4 h (No data available)

Potential Health Effect(s):

While not a classified inhalative acute toxicity hazard, the product may cause the following symptoms:

 headache
 lung damage
 nausea
 shortness of breath
 sore throat
 dyspnea
 asthma

Skin Corrosion or Irritation
3648-20-2 Diundecyl phthalate (DUP)

Corrosion/Irritation slightly irrit. (rabbit) (Federal Register 1500.51.1973)

Erythema: 1/1 (Max. 1; 1 out of 6 animals at 24 hrs; 4 out of 6 animals at 48 hrs)

Edema: 0 (6 out of 6 animals)

The substance was determined to be slightly irritating to skin (Category 3).

Reference: ECHA (2011).

101-68-8 4,4'-diisocyanatodiphenylmethane

Corrosion/Irritation (rabbit) (OECD TG 404; post-exposure: 14 days)

26447-40-5 Methylene diphenyl diisocyanate

Corrosion/Irritation (Read-across from CAS 101-68-8)

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Corrosion/Irritation (No data available)

Potential Health Effect(s):

Causes skin irritation.

In contact with skin, may cause:

 skin rash
 redness and pain

Eye Serious Damage or Irritation
3648-20-2 Diundecyl phthalate (DUP)

Damage/Irritation slightly irrit. (rabbit) (0.1mL pure substance)

conjunctivae = 4, 3, 3, and 0 (at 1, 24, and 48 hrs respectively; Max. 110; mean scores of all animals)

cornea = 0 (1+24+48 hrs; mean score of all animals)

iris = 0 (1+24+48 hrs; mean score of all animals)

The substance was slightly irritating to rabbit eyes (Category 2B).

Reference: ECHA (2011).

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101-68-8 4,4'-diisocyanatodiphenylmethane

Damage/Irritation (rabbit) (post-exposure: 8 days)

26447-40-5 Methylene diphenyl diisocyanate

Damage/Irritation (Read-across from CAS 101-68-8)

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Damage/Irritation (No data available)

Potential Health Effect(s):

 Causes serious eye irritation.
 In contact with eye, may cause:
 tear production
 redness and pain

Respiratory or Skin Sensitization
3648-20-2 Diundecyl phthalate (DUP)

Sensitization	Skin	not sensitizing (Human) (Repeated insult patch test) No positive reaction was observed in 104 panelists after a repeated administration of 0.2 mL pure substance for 96 hours. Reference: ECHA (2011).
	Respiratory	(No data available)

101-68-8 4,4'-diisocyanatodiphenylmethane

Sensitization	Skin	(guinea pig) (OECD TG 406) For safety reason, the substance was classified as a skin sensitizer.
	Respiratory	sensitizing (guinea pig) (intradermal injection and topical application)

26447-40-5 Methylene diphenyl diisocyanate

Sensitization	Skin	(Read-across from CAS 101-68-8)
	Respiratory	(Read-across from CAS 101-68-8)

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Sensitization	Skin	(No data available)
	Respiratory	(No data available)

Potential Health Effect(s):

 May cause an allergic skin reaction.
 Repeated skin contact may cause dermatitis, skin rash or itchiness.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause asthma attacks with shortness of breath, wheezing, cough, and/or chest tightness.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

Germ Cell Mutagenicity
3648-20-2 Diundecyl phthalate (DUP)

Mutagenicity	negative (Human) (In Vitro (mammalian chromosome aberration)) In Vitro (mammalian chromosome aberration test with OECD TG 473 in human lymphocytes) - negative with and without metabolic activation In Vitro (mammalian chromosome aberration test with OECD TG 476 in mouse lymphoma cells) - negative with and without metabolic activation In Vitro (bacterial reverse mutation assay with OECD TG 471 in Salmonella typhimurium) - negative with and without metabolic activation Reference: ECHA (2011).
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101-68-8 4,4'-diisocyanatodiphenylmethane

Mutagenicity	(salmonella typhimurium) (Escherichia coli)
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26447-40-5 Methylene diphenyl diisocyanate

Mutagenicity	(Read-across from CAS 101-68-8)
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39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Mutagenicity	(No data available)
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Potential Health Effect(s): Not a known Germ Cell Mutagen.

Carcinogenicity
3648-20-2 Diundecyl phthalate (DUP)

Carcinogenicity	negative (Test species: n/a) (not listed as a Carcinogen by NTP, IARC or OSHA)
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101-68-8 4,4'-diisocyanatodiphenylmethane

Carcinogenicity	negative (rat) The substance was not listed as a carcinogen by OSHA, ACGIH or NTP. IARC Group 3 not classifiable to relevance to humans. When considering all of the evidence, the substance was considered to be of unlikely relevance of carcinogenicity to humans. Reference: ECHA (2011).
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26447-40-5 Methylene diphenyl diisocyanate

Carcinogenicity	(read across from 101-68-8)
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39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Carcinogenicity	(No data available)
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Potential Health Effect(s): Suspected of causing cancer.

Reproductive Toxicity
3648-20-2 Diundecyl phthalate (DUP)

Reproductive Toxi.	(No data available)
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101-68-8 4,4'-diisocyanatodiphenylmethane	
Reproductive Toxi.	(No data available)
26447-40-5 Methylene diphenyl diisocyanate	
Reproductive Toxi.	(No data available)
39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)	
Reproductive Toxi.	(No data available)
Potential Health Effect(s): No relevant information; classification is not possible.	
Specific Target Organ Toxicity - Single Exposure	
3648-20-2 Diundecyl phthalate (DUP)	
STOT-Single	Target: None (rat) (No abnormal health effects found) No significant abnormal health effects were observed after a single administration with 15800 mg/kg (oral), 2000 mg/kg (dermal), or 1.8 mg/L (inhalation) of the substance. It was therefore not expected to pose a target organ hazard upon single or short-term exposure. Reference: ECHA (2011).
101-68-8 4,4'-diisocyanatodiphenylmethane	
STOT-Single	(Human)
26447-40-5 Methylene diphenyl diisocyanate	
STOT-Single	(Read-across from CAS 101-68-8)
39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)	
STOT-Single	(No data available)
Potential Health Effect(s): May cause respiratory irritation.	
Specific Target Organ Toxicity - Repeated Exposure	
3648-20-2 Diundecyl phthalate (DUP)	
STOT-Repeated	Target: None (rat) (No systemic effect found after repeated oral doses) At 2.5% (> 2500 mg/bw/day; Diet period: 21 days) daily diet group, the substance caused a moderate proliferation of peroxisomes in livers of the rats. However, the dose level was out of the guidance range values. Reference: ECHA (2011).
101-68-8 4,4'-diisocyanatodiphenylmethane	
STOT-Repeated	(rat) (OECD TG 453) Target organs: respiratory system (Category 1)
26447-40-5 Methylene diphenyl diisocyanate	
STOT-Repeated	(Read-across from CAS 101-68-8)
39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)	
STOT-Repeated	(No data available)
Potential Health Effect(s): May cause damage to organs through prolonged or repeated exposure. Not a known hazard to organs upon repeated exposure.	
Aspiration Hazard	
3648-20-2 Diundecyl phthalate (DUP)	
Aspiration Hazard	(No data available)
101-68-8 4,4'-diisocyanatodiphenylmethane	
Aspiration Hazard	(No data available)
26447-40-5 Methylene diphenyl diisocyanate	
Aspiration Hazard	(No data available)
39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)	
Aspiration Hazard	(No data available)
Potential Health Effect(s): No relevant information; classification is not possible.	
Additional Information No further relevant information.	

12 Ecological information

Aquatic Environmental Toxicity	
3648-20-2 Diundecyl phthalate (DUP)	
Algae Toxicity	3.3 mg/l (Pseudokirchneriella subcapitata) (NOEC (8 days; Maximum dose: 3.3 mg/l)) EC50 (72 hrs; OECD TG 201) = 3.3 mg/l (Maximum test concentration)
Crustacean Toxicity	0.059 mg/l (Daphnia magna (water flea)) (NOEC (21 days; Maximum dose: 0.059 mg/l)) LC50 (48 hrs; EPA OTS 797.1300) > 0.022 mg/L
Fish Toxicity	0.3 mg/l (Oncorhynchus mykiss (Rainbow trout)) (NOEC(155 days); EPA OPPTS 850.1400; Max.: 0.3mg/l) LC50 (96 hrs; EPA-660/3-75-009) > 1.4 mg/L No death was observed at water solubility of the substance (1.0 mg/L at 25 °C), it was therefore not classified as hazardous to aquatic environment. Reference: ECHA (2011).
101-68-8 4,4'-diisocyanatodiphenylmethane	
Algae Toxicity	> 1640 mg/l (Scenedesmus subspicatus) (EC50 (3 days), OECD TG 201)
Crustacean Toxicity	> 1000 mg/l (Daphnia magna (water flea)) (EC50 (24 hrs), OECD TG 202)
Fish Toxicity	> 3000 mg/l (Oryzias latipes (Rice fish)) (LC0 (96 hrs), OECD TG 203)
26447-40-5 Methylene diphenyl diisocyanate	
Algae Toxicity	(Read-across from CAS 101-68-8)
Crustacean Toxicity	(Read-across from CAS 101-68-8)
Fish Toxicity	(Read-across from CAS 101-68-8)

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39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Algae Toxicity (No data available)

Crustacean Toxicity (No data available)

Fish Toxicity (No data available)

Aquatic Environmental Toxicity Assessment: Not a known Environmental hazard to aquatic life.

Degradability and Stability

3648-20-2 Diundecyl phthalate (DUP)

 Biodegradation readily biodeg. (Test species: n/a) (Biodegradation (28 days; OECD TG 301B)=69%)
 The substance is readily biodegradable.
 Reference: ECHA (2011).

 Persistence (Test species: n/a) (The substance is not persistent)
 Reference: Canada DSL (2007).

 Photodegradation 2.91E-11 cm³/molecule-sec (OH radical) (Calculated by AOPWIN)
 Half-life (5E5 OH/cm³) = 13.25 hours
 Reference: ECHA (2011).

 Stability in water stable (Test species: n/a) (Half-life (PH=7; 25 °C; HYDROWIN) = 7.7 yrs)
 Half-life (PH=8; 25 °C; Calculated by HYDROWIN) = 281.03 days
 Reference: ECHA (2011).

101-68-8 4,4'-diisocyanatodiphenylmethane

Biodegradation non-biodegrad. (Test species: n/a) (OECD TG 301; 4 weeks; 100 mg/L of the substance)

Persistence (Test species: n/a)

 Photodegradation 1.16E-11 cm³/molecule-sec (OH radical)

Stability in water (No data available)

26447-40-5 Methylene diphenyl diisocyanate

 Biodegradation (Read-across from CAS 101-68-8)
 non-biodegrad. (Test species: n/a) (OECD TG 301; 4 weeks; 100 mg/L of the substance)

 Persistence (Read-across from CAS 101-68-8)
 The substance is not persistent.

 Photodegradation (Read-across from CAS 101-68-8)
 1.16E-11 cm³/molecule-sec (OH radical)
 Half-life = 0.92 day; however, photolysis in water is negligible.
 Reference: CHRIP (2011), Canada DSL (2007), and ECHA (2011).

Stability in water (No data available)

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

Biodegradation (No data available)

 Persistence (Test species: n/a)
 The substance is persistent.
 Reference: Canada DSL (2007).

Photodegradation (No data available)

Stability in water (No data available)

Bioaccumulation and Distribution

3648-20-2 Diundecyl phthalate (DUP)

 BCF 21.4 (Test species: n/a) (Calculated by BCFBAF or EPIWIN)
 Reference: ECHA (2011) and Canada DSL (2007).

 Koc ≥ 2.5E21 L/kg (Test species: n/a)
 LogKoc (Soil; OECD TG 121) = ca. 21.41
 LogKoc (Sewage sludge; OECD TG 121) = ca. 23.21
 Reference: ECHA (2011).

LogPow 4.95 (Test species: n/a) (The substance is not bioaccumulative)

101-68-8 4,4'-diisocyanatodiphenylmethane

BCF 92 (Cyprinus carpio) (Chemical concentration: 0.8 µg/L; 28 days)

Koc (No data available)

LogPow 4.51 (Test species: n/a) (OECD TG 117)

26447-40-5 Methylene diphenyl diisocyanate

 BCF (Read-across from CAS 101-68-8)
 92 (Cyprinus carpio) (Chemical concentration: 0.8 µg/L; 28 days)
 200 (Chemical concentration: 0.08 µg/L; 28 days)
 It is not or low bioaccumulative in aquatic environment.
 Reference: CHRIP (2011).

Koc (No data available)

 LogPow (Read-across from CAS 101-68-8)
 4.51 (Test species: n/a) (OECD TG 117)
 Reference: ECHA (2011).

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

 BCF (No data available)
 The substance is not bioaccumulative.
 Reference: Canada DSL (2007).

Koc (No data available)

LogPow (No data available)

Degradability and Bioaccumulation Assessment: Rapidly degradable; but low-bioaccumulative.

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Additional Information No further relevant information.

13 Disposal considerations

Hazardous Waste List

Description: It may be necessary to contain and dispose of the substance/mixture as a hazardous waste.

Waste Treatment Recommendation:

Generation of waste should be avoided or minimized wherever possible.

Chemical waste, even small quantities, is neither allowed to be poured down drains, sewage system or waterways; nor disposed with household garbage.

Dispose of contents/containers in accordance with local, regional, national, and international regulations.

Unused and Uncontaminated Packagings

Recommendation Dispose of according to your local waste regulations.

14 Transport information

UN-Number

DOT, ADR, ADN, IMDG, IATA

Not Regulated

UN Proper Shipping Name

DOT, ADR, ADN, IMDG, IATA

Not Regulated

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

Not Regulated

Packing group

DOT, ADR, IMDG, IATA

Not Regulated

Environmental Hazards:

Not applicable.

Special Precautions:

Not applicable.

Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional Information:

DOT

Quantity limitations

when shipped in individual containers less than the RQ of 5000lbs this material ships as non regulated.

UN "Model Regulation":

Not Regulated

15 Regulatory information

USA Regulation Lists

SARA (Superfund Amendments and Reauthorization Act of 1986)

Section 302 (Extremely Hazardous Substances)

None of the ingredients is listed.

Section 313 (Toxics Release Inventory (TRI) reporting)

101-68-8 4,4'-diisocyanatodiphenylmethane

5-<10%

Section 311/312 (Hazardous Chemical Inventory Reporting)

101-68-8 4,4'-diisocyanatodiphenylmethane

A, C 5-<10%

Hazard Abbreviations for SARA 311/312

A - Acute Health Hazard

C - Chronic Health Hazard

F - Fire Hazard

R - Reactive Hazard

S - Sudden Release of Pressure Hazard

TSCA (Toxic Substances Control Act)

3648-20-2 Diundecyl phthalate (DUP)

101-68-8 4,4'-diisocyanatodiphenylmethane

26447-40-5 Methylene diphenyl diisocyanate

39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)

1843-03-4 Phenol, 4,4',4''-(1-methyl-1-propenyl-3-ylidene)tris[2-(1,1-dimethylethyl)-5-methyl-

Proposition 65

Chemicals Known to Cause Cancer

75-56-9 propylene oxide

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.

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Chemicals Known to Cause Developmental Toxicity

None of the ingredients is listed.

Carcinogenic Categories
EPA (Environmental Protection Agency)

101-68-8 4,4'-diisocyanatodiphenylmethane D, CBD

IARC (International Agency for Research on Cancer)

101-68-8 4,4'-diisocyanatodiphenylmethane 3

NTP (National Toxicology Program)

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.

International Regulation Lists
Chinese Chemical Inventory of Existing Chemical Substances:

 3648-20-2 Diundecyl phthalate (DUP)
 101-68-8 4,4'-diisocyanatodiphenylmethane
 26447-40-5 Methylene diphenyl diisocyanate
 39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)
 1843-03-4 Phenol, 4,4',4''-(1-mrthyl-1-propanyl-3-ylidene)tris[2-(1,1-dimethylethyl)-5-methyl-

Japanese Existing and New Chemical Substance List:

 3648-20-2 Diundecyl phthalate (DUP)
 101-68-8 4,4'-diisocyanatodiphenylmethane
 26447-40-5 Methylene diphenyl diisocyanate
 1843-03-4 Phenol, 4,4',4''-(1-mrthyl-1-propanyl-3-ylidene)tris[2-(1,1-dimethylethyl)-5-methyl-

Korean Existing Chemical Inventory:

 3648-20-2 Diundecyl phthalate (DUP)
 101-68-8 4,4'-diisocyanatodiphenylmethane
 26447-40-5 Methylene diphenyl diisocyanate
 39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)
 1843-03-4 Phenol, 4,4',4''-(1-mrthyl-1-propanyl-3-ylidene)tris[2-(1,1-dimethylethyl)-5-methyl-

European Pre-registered substances:

 3648-20-2 Diundecyl phthalate (DUP)
 101-68-8 4,4'-diisocyanatodiphenylmethane
 26447-40-5 Methylene diphenyl diisocyanate
 39310-05-9 Diphenylmethane diisocyanate homopolymer (MDI homopolymer)
 1843-03-4 Phenol, 4,4',4''-(1-mrthyl-1-propanyl-3-ylidene)tris[2-(1,1-dimethylethyl)-5-methyl-

REACH - Substances of Very High Concern (SVHC) List:

None of the ingredients is listed.

Restriction of Hazardous Substances Directive (RoHS) list:

None of the ingredients is listed.

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 (M)SDS: Product Safety Department
- Contact: msds@resinlab.com

Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
 ACToR: US EPA Aggregated Computational Toxicology Resource
 ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
 BCF: Bioconcentration Factor
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 CCRIS: US NLM TOXNET Chemical Carcinogenesis Research Information System
 ChemID (Full Record): US NLM Chemical Information Database (or its Full Record) designed to help search for information by chemical name or structure
 CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
 DOT: US Department of Transportation
 DSL: Canada Domestic Substance List
 ESIS: European Chemical Substances Information System
 HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
 HSDB: US NLM TOXNET Hazardous Substances Databank
 HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database
 IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)
 IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)
 ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)

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ICSC: International Chemical Safety Cards

IMDG: International Maritime Dangerous Goods; the principal international rules for International Carriage of Dangerous Goods by SEA under the Recommendations on the Transport of Dangerous Goods by United Nations (RTDG)

Koc: Partition coefficient, soil Organic Carbon to water

LC50/LD50: Lethal Concentration/Dose, 50 percent

N/a: Not available or Not applicable

NFPA: US National Fire Protection Association

NIOSH: US National Institute of Occupational Safety and Health

NITE: National Institute of Technology and Evaluation, Japan

OECD: Organisation for Economic Co-operation and Development

OSHA: US Occupational Safety and Health Administration

P: Marine Pollutant

RCRA: Resource Conservation and Recovery Act (USA)

REACH: EU Registry, Evaluation and Authorisation of Chemicals

RID: the Regulations Concerning the International Carriage of Dangerous Goods by Rail; published by the Central Office for International Carriage by Rail (OTIF)

RTDG: the Recommendations on the Transport of Dangerous Goods by United Nations (UN)

RTECS: US Registry of Toxic Effects of Chemical Substances

SARA: US Superfund Amendments and Reauthorization Act

SIDS: OECD existing chemicals Screening Information Data Sets

SVHC: EU ECHA Substance of Very High Concern

TEEL: Temporary Emergency Exposure Limit developed by US Subcommittee on Consequence Assessment and Protective Actions (SCAPA) of US Department of Energy (DOE)

TOXLINE: US NLM bibliographic database search system

TSCA: US Toxic Substance Control Act

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