

Safety Data Sheet acc. to OSHA HCS

Print Date 12/18/2015

Revision Date 12/18/2015

- **Product Identifier**
 - **Trade Name:** EP1390 B
 - **Application of the Substance or Mixture:** Epoxy Hardener
- **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 Corr. 1A H314 Causes severe skin burns and eye damage.
Skin Sens. 1 H317 May cause an allergic skin reaction.
Repr. 2 H361 Suspected of damaging fertility or the unborn child.
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).
- **Pictogram(s)**



GHS05 GHS07 GHS08

- **Signal Word** Danger
- **Hazard-determining Component(s)**
Diethylenetriamine
Tofa, reaction products with TEPA
Bisphenol A
Tetraethylenepentamine
- **Hazard statements**
Harmful if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
May cause respiratory irritation.
- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves / eye protection / face protection.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Do not handle until all safety precautions have been read and understood.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
Wash contaminated clothing before reuse.
If exposed or concerned: Get medical advice/attention.
If skin irritation or rash occurs: Get medical advice/attention.
If swallowed: Rinse mouth. Do NOT induce vomiting.
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	*3	Health = *3 Fire = 1 Reactivity = 0
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: 68953-36-6 EINECS: 273-201-6	Tofa, reaction products with TEPA Skin Corr. 1A, H314 Skin Sens. 1, H317	40-50%
CAS: 111-40-0 EINECS: 203-865-4 Index Number: 612-058-00-X RTECS: IE 1225000	Diethylenetriamine Acute Tox. 1, H330 Skin Corr. 1B, H314 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; STOT SE 3, H335	10-20%
CAS: 13560-89-9 EINECS: 236-948-9	Bis(hexachlorocyclopentadieno). STOT RE 2, H373	10-20%
CAS: 80-05-7 EINECS: 201-245-8 Index Number: 604-030-00-0 RTECS: SL 6300000	Bisphenol A Repr. 2, H361 Eye Dam. 1, H318 Skin Sens. 1, H317; STOT SE 3, H335	5-<10%
CAS: 112-57-2 EINECS: 203-986-2 Index Number: 612-060-00-0 RTECS: KH8585000	Tetraethylenepentamine Skin Corr. 1B, H314 Aquatic Chronic 2, H411 Acute Tox. 4, H312	5-<10%
CAS: 67762-90-7 EC number: 614-122-2	Siloxanes and Silicones, di-Me, reaction products with silica	1-2.5%

Classification System:

The Classifications were based on the Toxicological and Ecological Data of the substances/mixtures in the Section 11 and 12.

Additional Information:

If the chemical name/CAS number is proprietary and or weight percentage is listed as a range, the specific chemical identity and or percentage of composition has been withheld as a trade secret.

4 First-aid measures

Description of First Aid Measures
General Information

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. Consult a physician after significant exposure.

After Skin Contact

Immediately remove all contaminated clothing and put them in a tightly sealed bag. Immediately wash contaminated skin with water and soap and rinse them thoroughly. If medical attention is not immediately available continue flushing skin for one hour. Cover wound with sterile dressing. Get medical attention

After Eye Contact

Immediately irrigate eye while holding eyelids apart and continue to irrigate until patient receives medical attention. Continue to irrigate for one hour if medical attention is not promptly available. 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.
Seek medical treatment in case of complaints.

Information for Doctor

Corticosteroid cream has been effective in treating skin irritation.
Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

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Additional Information

For additional information, please consult the corresponding first aid measures in the most current version of Emergency Response Guidebook which is produced by the US Department of Transportation.

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) Water with full jet

Firefighting Procedures

Isolate fire and deny unnecessary entry.

Eliminate all ignition sources if safe to do so.

Do not extinguish fire unless flow can be stopped.

Fight fire remotely due to the risk of explosion.

Solid stream of water may spread fire; use water spray or water fog.

Cool all affected containers with flooding quantities of water.

Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.

Special Hazards Arising in Fire

Will not burn unless preheated.

In case of fire, following can be released:

May generate ammonia gas.

Formaldehyde, a skin and lung sensitizer and a regulated carcinogen, may be formed during fires.

Carbon dioxide (CO₂) and Carbon monoxide (CO)

Nitrogen oxides

Hydrogen chloride (HCl)

Advice for Firefighters

If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA fire brigades standard (29 CFR 1910.156).

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

Ensure adequate ventilation.

Eliminate all ignition sources.

Keep unauthorized personnel away.

Absorb residues with liquid-binding materials.

Ventilate and wash area after clean-up is complete.

Collect spills in suitable and properly labeled containers.

Do not use solvents unless following safe handling practices and within the recommended exposure guidelines.

Dispose contaminated chemicals as waste according to Section 13.

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.

For industrial or professional use only

Observe all the personal protection requirements in Section 8.

Information about Protection Against Explosions and Fires

Will not burn unless preheated.

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.

Information about Storage in One Common Storage Facility

Store away from incompatible material(s).

Store away from foodstuffs.

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Avoid release to the environment.

· **Additional Information** No further relevant information.

8 Exposure controls/personal protection

· **Engineering Measures or Controls**

· **Exposure Limit Values that Require Monitoring at the Workplace**

111-40-0 Diethylenetriamine

REL Long-term value: 4 mg/m³, 1 ppm
Skin

TLV Long-term value: 4.2 mg/m³, 1 ppm
Skin

112-57-2 Tetraethylenepentamine

WEEL Long-term value: 5 mg/m³
Skin; DSEN

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

OSHA PEL Short-term value: 15 mg/m³

US ACGIH Short-term value: 10 mg/m³

· **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 skin or eye.

Do not eat, drink or smoke during work.

Clean hands and exposed skin thoroughly after work and before breaks.

· **Personal Protective Equipment (PPE)**

· **Breathing Equipment**

If inhalation hazards exist a respirator may be required instead.

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.

Suggested glove type(s):

Nitrile Gloves

Impervious gloves

Butyl Rubber Gloves

Fluoroelastomer or Viton Gloves

· **Eye Protection**

tightly sealed goggles and face shields if the potential for splashing occurs.

tightly sealed goggles

· **Body Protection** Protective clothing should be selected to cover as much of the exposed skin area as possible.

· **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:** Viscous liquid

· **Color:** Cream

· **Odor:** Characteristic

· **Odor Threshold:** Not determined.

· **PH-Value:** Not determined.

· **Change in Condition:**

· **Melting Point:** Not determined.

· **Boiling Point:** Not determined.

· **Flash Point:** > 93 °C (> 199 °F)

· **Decomposition Temperature:** Not determined.

· **Flammability:** Not determined.

· **Explosion:** Not determined.

· **Explosion Limits:**

· **Lower:** Not determined.

· **Upper:** Not determined.

· **Vapor Pressure:** Not determined.

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- **Vapor Density:** not determined
- **Density at 20 °C (68 °F):** 1.07 g/cm³ (8.929 lbs/gal)
- **Solubility in or Miscibility with**
- **Water:** Partially miscible.
- **Viscosity:**
- **Dynamic:** Not determined.
- **Kinematic:** Not determined.

10 Stability and reactivity

- **Physical Hazard(s)** Not a regulated reactive or physical hazard under GHS.
- **Hazardous Reactivity and Chemical Stability** Stable under normal conditions of use, storage and temperatures.
- **Thermal Decomposition and Conditions to be Avoided**
Keep away from incompatible material(s).
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 corrode Copper, Aluminum, Nickel, Cobalt, Zinc and Galvanized surfaces.
- **Incompatible Material(s)**
Oxidizing agents
Sodium hypochlorite, Nitrous acid and other nitrosating agents
Acids
- **Hazardous Decomposition Product(s)**
Ammonia (NH₃) and/or Amines.
Thermally decomposes during fire or very high heat. See Section 5 for fire hazards evolved during thermal decomposition.
- **Hazardous Polymerization Product(s)** No relevant information.

11 Toxicological information

· Acute Toxicity

· Oral

68953-36-6 Tofa, reaction products with TEPA

Oral	LD50	(rat) (LD50 > 2000 mg/kg) 3125 mg/kg (mouse) (Read-across from 68140-00-1& 68155-06-6) Reference: Air products (M)SDS (2012).
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111-40-0 Diethylenetriamine

Oral	LD50	1315 mg/kg (rat) (average of the test results of LD50 (oral, rats)) 600 mg/kg (pig) (test details not available) When considering the weight of evidence, 1315 mg/kg was used for acute oral classification. Reference: GHS-J (2006) and OECD SIDS (1996).
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13560-89-9 Bis(hexachlorocyclopentadieno)

Oral	LD50	> 25000 mg/kg (rat) Reference: EPA HPVIS (2011).
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80-05-7 Bisphenol A

Oral	LD50	3300 mg/kg (Rats and Mice) (female rats; EPA method) LD50 (male mice; EPA method) = 4100 mg/kg bw where all treated animals died after a 14 day post exposure. LD50 (rats; OECD TG 401) = 5000 mg/kg bw where 1 out of 5 males, and 5 out of 5 females died. Reference: IUCLID Dataset (2000) and ECHA (2011).
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112-57-2 Tetraethylenepentamine

Oral	LD50	2100 mg/kg (white rats) (Classified as Cat 4 by EU) 3900 mg/kg (rats) EC classified the substance as an Acute-4 oral hazard although the lowest LD50 (oral) available was over 2000 mg/kg. Reference: HSNO (2010), HSDB (2011) and ESIS (2011).
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67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Oral	LD50	>5000 mg/kg (rat) (test method not specified) Reference: Cabot (M)SDS (2012).
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· Potential Health Effect(s):

If swallowed, may cause:
 abnormal pain
 nausea
 shock or collapse
 vomiting
 headache
 See acute inhalative effect(s) for further information

· Dermal

68953-36-6 Tofa, reaction products with TEPA

Dermal	LD50	(rabbit) (LD50 ≥ 8550 mg/kg) Reference: Air products (M)SDS (2012).
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111-40-0 Diethylenetriamine	
Dermal	LD50 1090 mg/kg (rabbit) (1 out of 6 rabbits died at 10% concentration) 1090 mg/kg (Estimated from 10% concentration where 1 out of 6 rabbits died) 950 - 1240 mg/kg bw (test detail not available) 650 mg/kg (Calculated from 0.707 mL/kg which was estimated from 1.0 mL/kg where 3 out of 4 rabbits died, and 0.5 mL/kg where 1 out of 4 rabbits died) Reference: ECHA (2011) and OECD SIDS (1996).

13560-89-9 Bis(hexachlorocyclopentadieno)	
Dermal	LD50 > 8000 mg/kg (rabbit) No mortality was observed; the substance was not classified as an acute oral hazard. Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A	
Dermal	LD50 3000 mg/kg (rabbit) (3 out of 15 treated rabbits died at 2000 mg/kg) Reference: IUCLID Dataset (2000).

112-57-2 Tetraethylenepentamine	
Dermal	LD50 660 mg/kg (rabbit) Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica	
Dermal	LD50 (Test species: n/a) (Toxicity not expected based on acute oral data) Based on the acute oral toxicity test, it was expected that toxicity to mammals via dermal application of the substance was not a significant concern and resulted in a similar lack of acute toxicity. Thus, the substance was not classified as an acute dermal hazard as a wetted form.

Potential Health Effect(s):
Not a classified acute dermal hazard.
See acute inhalative effect(s) for further information.

Inhalative

111-40-0 Diethylenetriamine	
Inhalative	LC50/4 h 0.71 mg/l (rat) (LC50(vapor; 4 hours)) NOEL (lethality; aerosolized air; OECD TG 403) = 0.07 mg/L LC100 (lethality; aerosolized air; OECD TG 403) = 0.30 mg/L LC50 (vapor; 4 hours) = 170 ppm = 0.71 mg/L (1 ppm = 4.22E-3 mg/L) The LC50 value (4 hours) of 170ppm was lower than 90% of the saturated vapor concentration (200ppm) under a saturated vapour pressure of 0.2hPa (20 °C), the substance was therefore considered as vapor containing substantially no mist. Thus, the substance was classified as an Acute-2 inhalative hazard based on the criteria. Reference: ECHA (2011), GHS-J (2006) and NLM HSDB (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)	
Inhalative	LC50/4 h > 2.25 mg/l (rat) No mortality or any adverse effects were observed; classification was not possible. Reference: ACToR (2011).

80-05-7 Bisphenol A	
Inhalative	LC50/4 h (rat) (LC0 > 0.17 mg/l: no death occurred) Reference: ECHA (2011).

112-57-2 Tetraethylenepentamine	
Inhalative	LC50/4 h (rat) (LC0/8hrs >9.9ppm (saturated vapor concentration)) No mortality or any signs of toxicities were observed after an 8 hour inhalation of 9.9 ppm of the substance which was the saturated vapor and the highest tested concentration. Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica	
Inhalative	LC50/4 h (Test species: n/a) (Toxicity not expected based on acute oral data) Due to wetted form of the substance, inhalative effects from dust form can be seen as negligible. Meanwhile, based on the acute oral toxicity test, it was expected that toxicity to mammals via inhalation of the substance was not a significant concern and resulted in a similar lack of acute toxicity. Thus, the substance was not classified as an acute inhalation hazard.

Potential Health Effect(s):
Harmful if inhaled.
cough
nausea
sneezing
sore throat
wheezing

Skin Corrosion or Irritation

68953-36-6 Tofa, reaction products with TEPA	
Corrosion/Irritation	(No data available)

111-40-0 Diethylenetriamine	
Corrosion/Irritation	corrosive (rabbit) A 15 min-contact to a 40% solution of the substance resulted in visible erythema in 1 out of 2 animals. A 15 min-contact to a 100% solution of the substance resulted in necrosis in 2 out of 2 animals with remaining deep scar 21 days after application. Thus, the substance was classified as corrosive to rabbit skin (Category 1B). Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)	
Corrosion/Irritation	(No data available)

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80-05-7 Bisphenol A

Corrosion/Irritation not irritating (rabbit) (OECD TG 404)
Erythema = 0 (mean score of all treated animals)
Edema = 0 (mean score of all treated animals)
The substance was not classified as irritating to skin.
Reference: ECHA (2011).

112-57-2 Tetraethylenepentamine

Corrosion/Irritation corrosive (rabbit) (serious skin burns within 20-30 min of application)
The substance caused serious skin burns within 20-30 min of application, and necrosis following a 4 hour exposure period in rabbit skin. The substance was therefore considered as corrosive (Category 1) to rabbit skin.
Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Corrosion/Irritation Non-irritating (Test species: n/a) (Primary irritation index=0)
mildly irritating (rabbit) (Read across from CAS 63148-62-9)
No test detail available; for safety reasons, the substance was classified as mildly irritating (Category 3) to rabbit skin.
Reference: HSNO CCID (2010).

Potential Health Effect(s):

Causes severe skin burns and eye damage.
In contact with skin, may cause:
redness, pain and severe skin burns

Eye Serious Damage or Irritation

68953-36-6 Tofa, reaction products with TEPA

Damage/Irritation (No data available)

111-40-0 Diethylenetriamine

Damage/Irritation (rabbit) (seriously damage)
Cornea: 4.33/5 (Max. 5; at 1+24+48 hrs; pure substance; mean score of all treated animals; both 30-sec contact and full-time contact). 30 sec-contact (washed after 30 sec) was 50% opaque; and unwashed eye (full-time contact) was completely opaque one hour after application.
Conjunctivae: 6/6 (Max. 6; at 1+24+48 hrs; pure substance; mean score of all treated animals; both 30-sec contact and full-time contact). Severely inflamed and swollen conjunctiva with edematous membranes were observed which were not reversible within 8 days after application. Thus, the substance was classified as a serious eye irritant (Category 1).
Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

Damage/Irritation not irritating (rabbit)
No corneal, iridal or conjunctival effects were observed after a dermal application with 0.1 ml pure substance to rabbit eyes for 3 days.
Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A

Damage/Irritation serious damage (rabbit) (OECD TG 405)
Cornea: Grade 1 (mean score of all treated animals; time point: 28 days)
Iris: Grade 1 (mean score of all treated animals; time point: 28 days)
Conjunctiva: Grade 1 (mean score for all treated animals; time point: 6 days)
The substance was therefore classified as a serious eye irritant (Category 1) based on the classification criteria.
Reference: ECHA (2011).

112-57-2 Tetraethylenepentamine

Damage/Irritation serious damage (rabbit) (Based on the skin corrosion results)
The substance was classified as a serious eye irritant (Category 1) based on the skin corrosion results.

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Damage/Irritation slightly irrit. (Human) (Read across from CAS 63148-62-9)
non-irritating (Primary irritation index=0)
Transient ocular irritation was observed in humans, rabbits, dogs, and monkeys after injection of the substance to their eye bodies. However, those effects can be seen as negligible based on regular use of the substance. When applying lower viscosity substance-oil mixture to human and rabbit eyes, there was no cornea injury, but a delay of healing of the existed corneal erosion observed. For safety reasons, the substance was classified as a slight eye irritant (Category 2B).
Reference: ACToR (2011) and Cabot (M)SDS (2012).

Potential Health Effect(s):

Causes serious eye damage.
In contact with eye, may cause:
decrease or loss of vision

Respiratory or Skin Sensitization

68953-36-6 Tofa, reaction products with TEPA

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

111-40-0 Diethylenetriamine

Sensitization Skin sensitizing (mouse) (OECD TG 429)
Stimulation index: 1.0 (0%; the negative controlled group).
Stimulation index: 2.6, 3.3, and 3.5 (2.5%, 5%, and 10% respectively).
The substance was classified as sensitizing to mouse skin.
Reference: ECHA (2011).
Respiratory (Test species: n/a) (conclusive but not sufficient for classification)
Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

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

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80-05-7 Bisphenol A

Sensitization	Skin	sensitizing (Human) (Patch Test) 0.4% of the investigated cases showed allergic reactions; 1 out of 6 cases showed contact dermatitis in an epoxy resin plant. not sensitizing (mouse) (OECD TG 406 or 429) None of the measured parameters reached or exceeded positive levels that can define sensitization by comparing the treated animals with the control groups. For safety reason, the substance was classified as a dermal sensitizer (Category 1). Reference: ECHA (2011) and IUCLID Dataset (2000).
	Respiratory	(No data available)

112-57-2 Tetraethylenepentamine

Sensitization	Skin	sensitizing (Human) (Based on human epidemiological report) There were skin sensitization results reported in human victims after exposure to the substance. (guinea pig) Maximization test - a 50% concentrated solution of the substance induced a positive result. The substance is therefore classified as a dermal sensitizer (Category 1). Reference: OECD SIDS (2001).
	Respiratory	(No data available)

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Sensitization	Skin	(No data available) Primary irritation index=0 Non-irritating. Cabot MSDS (2012)
	Respiratory	(No data available)

- Potential Health Effect(s):**

- May cause an allergic skin reaction.
- Repeated skin contact may cause dermatitis, skin rash or itchiness.
- No relevant information for respiratory sensitization; classification is not possible.

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

- None of the ingredients is listed.

- Germ Cell Mutagenicity**

68953-36-6 Tofa, reaction products with TEPA

Mutagenicity	(No data available)
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111-40-0 Diethylenetriamine

Mutagenicity	negative (salmonella typhimurium) (In Vitro (Bacterial reverse mutation assay))
	In Vitro (bacterial reverse mutation assay in Salmonella typhimurium TA98, TA100, TA1535, and TA1537 strains with OECD TG 471) - negative with and without metabolic activation
	In Vitro (bacterial reverse mutation assay in E. coli WP2 uvrA with OECD TG 471) - negative with and without metabolic activation
	In Vitro (mammalian chromosome aberration test in Chinese hamster Ovary (CHO) cells with EPA Method 560/6-82-001) - negative without metabolic activation
	In Vivo (Drosophila SLRL test; male D. melanogasters; EPA Method 560/6-82-001; oral) - negative; the substance did not induce a significant increase in SLRL mutation frequencies by comparing with the control groups.
	negative (mouse) (In Vivo (Micronucleus assay))
In Vivo (micronucleus assay; CD-1 strains; OECD TG 474; oral with up to 850 mg/kg bw) - negative; the substance did not significantly increase the frequencies of micronucleated polychromatic erythrocytes, and was therefore considered as negative in the mouse bone marrow micronucleus test. Reference: ECHA (2011).	

13560-89-9 Bis(hexachlorocyclopentadieno)

Mutagenicity	(Test species listed below)
	In Vitro (Salmonella typhimurium TA98, TA100, TA1535, TA1537 and TA1538 strains) - negative with and without metabolic activation
	In Vitro (Mouse lymphoma cells heterozygous at the thymidine kinase (T/K) locus) - negative with and without metabolic activation Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A

Mutagenicity	negative (salmonella typhimurium) (In Vitro (Ames tests))
	In Vitro (Ames tests in Salmonella typhimurium) - negative with and without metabolic activation
	In Vitro (Escherichia coli) - negative with and without metabolic activation
	In Vitro (Chromosomal aberrations in CHO cells) - negative with and without metabolic activation
	In Vitro (Micronucleus in Human lymphoblastoid AHH-1 cells) - positive without metabolic activation
	negative (mouse) (In Vivo (Micronucleus assay))
	In Vivo (Micronucleus in Mouse bone marrow polychromatic erythrocytes) - negative In Vivo (Chromosomal aberrations in Mouse bone marrow cells) - positive (structural changes) When considering all of the evidence, the substance was not classified as a mutagen. Reference: CCRIS (2011).

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112-57-2 Tetraethylenepentamine

Mutagenicity negative (mouse) (In Vivo (Micronucleus assay)) (Rats and Mice)
In Vitro (rat; Unscheduled DNA synthesis) - Positive with and without metabolic activation.
In Vivo (mouse; Micronucleus assay) - Negative (salmonella typhimurium)
In Vitro - Positive with and without metabolic activation. (Chinese Hamster)
In Vitro (Gene mutation) - Negative with and without metabolic activation.
In Vitro (Sister Chromatid Exchange) - Positive with and without metabolic activation.
Due to the negative results from In Vivo tests, the substance was not classified as a mutagen.
Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Mutagenicity negative (Chinese Hamster) (In Vitro (AMES Test))
negative (Chinese Hamster) (In Vitro (Chromosomal aberration in ovary cells))
Reference: Cabot (M)SDS (2012).

· **Potential Health Effect(s):** No further relevant information; classification is not possible.

· **Carcinogenicity**

68953-36-6 Tofa, reaction products with TEPA

Carcinogenicity negative (Test species: n/a) (not listed by OSHA, ACGIH, NTP or IARC)

111-40-0 Diethylenetriamine

Carcinogenicity negative (mouse) (No treatment related tumor observed)
NOEL (Carcinogenicity; male mice; 3 feeds/week) = 56.3 mg/kg bw (maximum test dose). There was no treatment related tumor observed.
Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

Carcinogenicity (No data available)

80-05-7 Bisphenol A

Carcinogenicity negative (mouse) (no carcinogenic effect with 1mg/kg/d for life-time)
Negative - no carcinogenic effects were observed after a repeated oral application of the substance with up to 1 mg/kg/day for life time, or up to 10000 ppm/day for 103 weeks.
(rat)
Positive - mammary gland and ductal hyperplasia were significant increased in treated animals at all dose levels after osmotically pumping to dams with up to 1 mg/kg/day of the substance for 50-95 postnatal days.
Negative - there were no carcinogenic effects observed after repeated oral application with up to 2000 ppm/day for 5 weeks.
(Test species: N/a)
Negative - the substance was not classified as a carcinogen by IARC, ACGIH, NTP or OSHA.
When considering all of the evidence, the substance was not classified as a carcinogen.
Reference: CCRIS (2011) and IUCLID Dataset (2000).

112-57-2 Tetraethylenepentamine

Carcinogenicity negative (mouse) (No carcinogenic effect in mouse skin observed)
Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Carcinogenicity (Test species: n/a) (Not listed by IARC, NTP, OSHA or ACGIH)

· **Potential Health Effect(s):** Not a known Carcinogen.

· **Reproductive Toxicity**

68953-36-6 Tofa, reaction products with TEPA

Reproductive Toxi. (No data available)

111-40-0 Diethylenetriamine

Reproductive Toxi. N/A (rat) (conclusive but not sufficient for classification)
NOAEL (OECD TG 421; oral; 28 days) = 30 mg/kg/day; loss of post-implantation and greater duration of gestation were both observed at 100 and 300 mg/kg bw/day. However, ECHA concluded it as conclusive but not sufficient for classification.
Reference: ECHA (2011) and GHS-J (2006).

13560-89-9 Bis(hexachlorocyclopentadieno)

Reproductive Toxi. (rat)
NOAEL (oral; reproductive toxicity) = 5000 mg/kg/day (highest dose tested)
NOAEL (oral; maternal/developmental toxicity) = 5000 mg/kg/day (highest dose tested)
The substance was not classified as a reproductive hazard.
Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A

Reproductive Toxi. suspected (Rats and Mice)
Suspected of damaging fertility or the unborn child.
RTECS contains reproductive data for this substance.

112-57-2 Tetraethylenepentamine

Reproductive Toxi. (No data available)

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Reproductive Toxi. (No data available)

· **Potential Health Effect(s):**

Suspected of damaging fertility or the unborn child.
No relevant information; classification is not possible.

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Specific Target Organ Toxicity - Single Exposure

68953-36-6 Tofa, reaction products with TEPA

STOT-Single (No data available)

111-40-0 Diethylenetriamine

STOT-Single (rat) (Respiratory tract irritation via inhalation)
Respiratory tract irritation were observed in treated rats via inhalation.
Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

STOT-Single (No data available)

80-05-7 Bisphenol A

STOT-Single (rat) (Respiratory tract irritation via inhalation)
Route: Inhalation with 0.17 mg/L of the aerosolized substance for 6 hours
Histopathological changes in the anterior region of nasal tissues, and the ulceration of incisive ducts were observed which were reversible within a 2-week recovery period.
Reference: IUCLID Dataset (2000).

112-57-2 Tetraethylenepentamine

STOT-Single (No data available)

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

STOT-Single (dynamic) (No data available)

Potential Health Effect(s): No relevant information; classification is not possible.

Specific Target Organ Toxicity - Repeated Exposure

68953-36-6 Tofa, reaction products with TEPA

STOT-Repeated (No data available)

111-40-0 Diethylenetriamine

STOT-Repeated Target: None (rat) (No systemic effects after oral or inhalative doses)
-Target organs: None
Groups of rats which were exposed to an essentially saturated vapor of the substance for 6 hrs/day for 15 days showed no adverse effects.
-Target organs: None
NOAEL (OECD TG 451; oral with up to 1210 mg/kg bw/day; 4 weeks) = 70 mg/kg bw/day
LOAEL (OECD TG 451; oral with up to 1210 mg/kg bw/day; 4 weeks) = 530 mg/kg bw/day which was outside of the guidance value ranges.
Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

STOT-Repeated (rat)
Target organs: Livers and Lungs (Category 2)
LOAEC (inhalation) = 0.64 mg/L/day: Increased absolute liver weights, hepatomegaly of centrilobular hepatocytes; increased absolute lung weights, and increased number of macrophages in alveoli were observed in the treated rats. For safety reason, the substance was classified as a Category 2 hazard via inhalation to livers and lungs.
NOAEL (oral; 13 weeks) = 5000 mg/kg bw/day (highest dose tested) which was outside the guidance value ranges.
NOAEL (dermal; 4 weeks) = 2000 mg/kg bw/day (highest dose tested) which was outside the guidance value ranges.
Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A

STOT-Repeated Target: N/A (rat) (conclusive but not sufficient for classification)
In a 90-day dietary toxicity study, a high incidence of multinucleated giant hepatocytes was observed at dose levels \geq 1000 ppm (74 mg/kg bw/day) in mice; and a high incidence of hyaline masses in the bladder lumen and cecal enlargement was observed at dose levels \geq 250 ppm (25 mg/kg/day) in rats. In a 2-year dietary toxicity study, a high incidence of multinucleated hepatocellular giant cells was observed at dose levels \geq 1000 ppm (74 mg/kg bw/day) in rats. However, ECHA concluded it as conclusive but not sufficient for classification.
Reference: ECHA (2011).

112-57-2 Tetraethylenepentamine

STOT-Repeated Target: None (rabbit) (No systemic effect after oral or dermal doses)
Dermal (OECD TG 410): There were no systemic or relevant adverse effects observed.
Oral: No significant change was observed by comparing the treated animals with the controlled groups.
Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

STOT-Repeated (No data available)

Aspiration Hazard

68953-36-6 Tofa, reaction products with TEPA

Aspiration Hazard (No data available)

111-40-0 Diethylenetriamine

Aspiration Hazard (No data available)

13560-89-9 Bis(hexachlorocyclopentadieno)

Aspiration Hazard (No data available)

80-05-7 Bisphenol A

Aspiration Hazard (No data available)

112-57-2 Tetraethylenepentamine

Aspiration Hazard (No data available)

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Aspiration Hazard (No data available)

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· **Potential Health Effect(s):** No relevant information; classification is not possible.

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12 Ecological information

· Aquatic Environmental Toxicity

68953-36-6 Tofa, reaction products with TEPA

Algae Toxicity	1.1-2.2 mg/l (<i>Scenedesmus subspicatus</i>) (EC50 (96 hrs), OECD TG 201) EC50 (96 hrs; OECD TG 201; Read-across from 68140-00-1, 68155-06-6 and 68603-42-9) = 1.1-2.2 mg/l
Crustacean Toxicity	0.3-4.2 mg/l (<i>Daphnia magna</i> (water flea)) (EC50 (48 hrs); OECD TG 202 and EEC Method C2) EC50 (48 hrs; Read-across from 71820-35-4; OECD TG 202 and EEC Method C2) = 0.3 - 4.2 mg/L (<i>Ceriodaphnia dubia</i>) (Read-across from 68603-42-9; EPA-600/3-88-034(-36)) EC50 (48 hrs) = 2.25 mg/L (<i>Daphnia Pulex</i>) (Read-across from 68603-42-9; EPA/600/485/013) EC50 (48 hrs) = 2.39 mg/L
Fish Toxicity	0.43 mg/l (Test species: n/a) (LC50 (96 hrs); OECD TG 203) 0.43 mg/l (Test species: N/a) (LC50 (96 hrs); OECD TG 203; Read-across from 68910-93-0) 2.6 mg/L (<i>Pimephales promelas</i> (fathead minnow)) (LC50 (96 hrs); Read-across from 93-83-4) 3.6 mg/L (<i>Brachydanio rerio</i> (Zebra fish)) (LC50 (96 hrs); Read-across from 68603-42-9; ISO 7346/1-3) Based on the rapid degradability, the substance is not classified as a chronic environmental hazard; based on the lowest acute L(E)C50 (fish and crustacea) < 1 mg/L, the substance is classified as an Acute-1 environmental hazard. Reference: Air products (M)SDS (2012), IUCLID Dataset (2000) and EPA HPVIS (2010).

111-40-0 Diethylenetriamine

Algae Toxicity	72 mg/l (<i>Selenastrum capricornum</i>) (EC50 (72 hrs; biomass); OECD TG 201) 1164 mg/l (EC50 (72 hrs; growth-rate); OECD TG 201)
Crustacean Toxicity	16 mg/l (<i>Daphnia magna</i> (water flea)) (EC50 (48 hrs); DIN38412 Part 11) 64.6 mg/l (EC50 (48 hrs); EU Method C2) 5.6 mg/L (NOEC (21 days); EU Method C20) Based on the acute EC50 < 100 mg/L, the substance is classified as an Acute-3 environmental hazard.
Fish Toxicity	430 mg/l (<i>Poecilia reticulata</i>) (LC50 (96 hrs); EU Method C1) > 10 mg/L (NOEC (28 days); OECD TG 210) Based on the non-rapid degradability and the chronic NOEC > 1 mg/L, the substance is not classified as a chronic environmental hazard. Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

Algae Toxicity	(No data available)
Crustacean Toxicity	(No data available)
Fish Toxicity	(No data available)

80-05-7 Bisphenol A

Algae Toxicity	2.7-3.1 mg/l (<i>Pseudokirchneriella subcapitata</i>) (EC50 (96 hrs), EPA 600/9-78-018)
Crustacean Toxicity	10.2 mg/l (<i>Daphnia magna</i> (water flea)) (EC50 (48 hrs), ASTM E729-80) 1.1 mg/L (<i>Mysidopsis bahia</i>) (LC50 (96 hrs); method not specified) > 3.2 mg/L (<i>daphnia magna</i>) (NOEC (21 days); OECD TG 202)
Fish Toxicity	4.6 mg/l (<i>Pimephales promelas</i> (fathead minnow)) (LC50 (96 hrs), ASTM E729-80) 9.9 mg/L (<i>Brachydanio rerio</i>) (LC50 (96 hrs); method not specified) 9.4 mg/L (<i>Menidia menidia</i>) (LC50 (96 hrs); ASTM E729-80) Based on the rapid degradability, the substance is not classified as a chronic environment hazard. Based on acute LC50 < 10 mg/l, the substance is classified as an Acute-2 environmental hazard. Reference: IUCLID Dataset (2000) and OECD SIAM (2002).

112-57-2 Tetraethylenepentamine

Algae Toxicity	2 mg/l (<i>Pseudokirchneriella subcapitata</i>) (ErC50 (72 hrs, growth rate)) Based on the non-rapid degradability and the algal ErC50 < 1 mg/L, the substance is classified as a Chronic-1 environmental hazard.
Crustacean Toxicity	14.6 mg/l (<i>Daphnia magna</i> (water flea)) (LC50 (48 hrs))
Fish Toxicity	420 mg/l (<i>Poecilia reticulata</i>) (LC50 (96 hrs)) 420 mg/l (<i>Guppy</i> (<i>Poecilia reticulata</i>)) (LC50 (96 hrs)) Reference: OECD SIDS (2001).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

Algae Toxicity	> 10000 mg/l (<i>Scenedesmus subspicatus</i>) (ErC50 (24 hrs), OECD 201)
Crustacean Toxicity	> 1000 mg/l (<i>Daphnia magna</i> (water flea)) (EC50 (24 hrs), OECD 202)
Fish Toxicity	> 10000 mg/l (<i>Brachydanio rerio</i> (Zebra fish)) (LC50 (96 hrs), OECD 203) Reference: Cabot (M)SDS (2012).

· **Aquatic Environmental Toxicity Assessment:** No further relevant information; classification is not possible.

· Degradability and Stability

68953-36-6 Tofa, reaction products with TEPA

Biodegradation	readily biodeg. (Activated Sludge) (Read-across from 68140-00-1 and 68603-42-9) Biodegradation (OECD TG 303A; aerobic) = 92% Biodegradation (OECD TG 303A; anaerobic) = 79% (Test species: n/a) (Read-across from 68140-00-1, 68155-06-6&68063-42-9) Biodegradation (30 days; Directive 84/449/EEC C6) = 55-90% Thus, the substance is readily biodegradable. Reference: IUCLID Dataset (2000).
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Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	(27 - 93)E(-12) cm ³ /molecule-sec (OH radical) (Read-across from 112-84-5, 124-26-5 and 301-02-0) Half-Life = 1.5-4.5 hours; however, photolysis in water is negligible. Reference: EPA HPVIS (2010).
Stability in water	(No data available)
111-40-0 Diethylenetriamine	
Biodegradation	non-biodegrad. (Activated Sludge) (Biodegradation (OECD TG 301C) < 4.3%) Biodegradation (2 weeks; Chemical conc. 100 ppm; Direct from TOC and UV-vis) = "a negative value" and 4.3% Biodegradation (2 weeks; Chemical conc. 100 ppm; Indirect from BOD) = 0% The substance is not biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) (The substance is persistent) Reference: Canada DSL (2007).
Photodegradation	1.48E-10 cm ³ /molecule-sec (OH radical) (Half-life = 2.6 hours) However, photolysis is negligible in water. Reference: ChemID Full Record (2011) and ECHA (2011).
Stability in water	stable (Test species: n/a) (Half-life(pH=8; Conc. 1.5 & 15 mg/L)=2,8,&15 days) Half-life (at PH=8; 20 °C; Chem conc. 1 mg/L) = 2 - 4 days Half-life (at PH=8; 20 °C; Chem conc. 5 mg/L) = 8 days Half-life (at PH=8; 20 °C; Chem conc. 15 mg/L) = 15 days Reference: IUCLID Dataset (2000).
13560-89-9 Bis(hexachlorocyclopentadieno)	
Biodegradation	non-biodegrad. (Test species: n/a) (OECD TG 301C; Chemical Conc. 100 ppm; 2 weeks) Biodegradation (Direct analysis from GC) = 0.36% Biodegradation (Indirect analysis from BOD) = 0.6% The substance is non-biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) The substance is persistent. Reference: Canada DSL (2007).
Photodegradation	2.29E-11 cm ³ /molecule-sec (OH radical) (at 25 °C) Half-life = 5.6 hours; however, photolysis in water is negligible. Reference: EPA HPVIS (2011).
Stability in water	(Test species: n/a) The substance is stable in water. Reference: EPA HPVIS (2011).
80-05-7 Bisphenol A	
Biodegradation	readily biodeg. (Test species: n/a) (Biodegradation (OECD TG 301F) ≥ 89%) Biodegradation (Conc. 100 ppm; 28 days; O ₂ consumption) = 89% Biodegradation (Conc. 100 ppm; 28 days; TOC removal) = 99% It was determined to be readily biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) (The substance is not persistent) Reference: ACToR (2011).
Photodegradation	8.06E-11 cm ³ /molecule-sec (Test species: n/a) Reference: ChemID (2011).
Stability in water	(No data available)
112-57-2 Tetraethylenepentamine	
Biodegradation	non-biodegrad. (Test species: n/a) (Biodegradation (Closed bottle test; 28 days) < 10%) Biodegradation (Die-way test; 43 and 49 days): non-biodegradable Reference: OECD SIDS (2001).
Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	3.06E-10 cm ³ /molecule-sec (OH radical) Half-life = 24 minutes; however, photolysis in water is negligible. Reference: ChemID (2010) and OECD SIDS (2001).
Stability in water	stable (Test species: n/a) (No hydrolysis group in the formula) Hydrolysis of the substance is negligible. Reference: OECD SIDS (2002).
67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica	
Biodegradation	(No data available)
Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	(No data available)
Bioaccumulation and Distribution	
68953-36-6 Tofa, reaction products with TEPA	
LogPow	(No data available)
BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	(No data available)

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111-40-0 Diethylenetriamine

LogPow -1.3 to -1.6 (Test species: n/a) (Calculated)
 Reference: ECHA (2011).

BCF < 6.3 (Cyprinus carpio) (The substance is not bioaccumulative)
 BCF (Chemical concentration: 2ppm; 6 weeks) =< 1.7
 BCF (Chemical concentration: 0.2ppm; 6 weeks) < 6.3
 Reference: CHRIP (2011).

Koc 2582-36658 L/kg (soil) (EPA OTS 796.2750)
 LogKoc = 3.4 - 4.6; mobility of the substance in soil is moderate to high.
 Reference: ECHA (2011).

13560-89-9 Bis(hexachlorocyclopentadieno)

LogPow 11.27 (Test species: n/a)
 Reference: ChemID Full Record (2011).

BCF (Cyprinus carpio)
 BCF (Chemical Conc. 2.65 ppb; 8 weeks) = 23 - 121
 BCF (Chemical Conc. 0.27 ppb; 8 weeks) = 14 - 96
 The substance is not or low bioaccumulative.
 Reference: CHRIP (2011).

Koc (Test species: n/a)
 LogKoc = 7.7 which indicated a high mobility in soil.
 Reference: EPA HPVIS (2011).

80-05-7 Bisphenol A

LogPow 3.4 (Test species: n/a) (OECD TG 107)
 Reference: ECHA (2011).

BCF 5.1-67.7 (Cyprinus carpio) (The substance is not highly bioaccumulative)
 BCF (Chemical concentration: 150 ppb; 6 weeks) = 5.1 - 13.3
 BCF (Chemical concentration: 15 ppb; 6 weeks) < 67.7
 Reference: CHRIP (2011).

Koc (No data available)

112-57-2 Tetraethylenepentamine

LogPow - 3.16 (Test species: n/a) (other: EPIWIN)
 Reference: OECD SIDS (2002).

BCF 4.2 (Test species: n/a) (The substance is not bioaccumulative)
 Reference: OECD SIDS (2002).

Koc 1098 L/kg (Test species: n/a) (By calculation, PH=5-9)
 The substance is highly mobile in soil.
 The substance partitioned primarily to soil (55%) and to a lesser extent water (45%) based on Level III Fugacity Modeling.
 Reference: OECD SIDS (2002).

67762-90-7 Siloxanes and Silicones, di-Me, reaction products with silica

LogPow (No data available)

BCF (No data available) (The substance is not bioaccumulative)
 Reference: Canada DSL CCR (2011).

Koc (No data available)

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

13 Disposal considerations

• **Hazardous Waste List**

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

• **RCRA Waste:**

111-40-0 Diethylenetriamine	D002	10-<20%
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• **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, IMDG, IATA UN3267

• **UN Proper Shipping Name**

• DOT, ADR, IMDG, IATA Corrosive liquid, basic, organic, n.o.s.
(Polyamidoamine, Diethylenetriamine)

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· **Transport hazard class(es)**

· **DOT**



· **Class**
· **Label**

8 Corrosive substances
8

· **ADR**



· **Class**
· **Label**

8 (C7) Corrosive substances
8

· **IMDG**



· **Class**
· **Label**

8 Corrosive substances
8

· **IATA**



· **Class**
· **Label**

8 Corrosive substances
8

· **Packing group**
· **DOT, ADR, IMDG, IATA**

III

· **Environmental Hazards:**
· **Marine Pollutant:**

Yes (DOT)
Symbol (fish and tree)
Symbol (fish and tree)

· **Special Marking (ADR):**

Warning: Corrosive substances

· **Special Precautions:**

· **Danger Code (Kemler):**
· **EMS Number:**
· **Segregation Groups**
· **Stowage Code**
· **Segregation Code**

80
F-A, S-B
Alkalis
SW2 Clear of living quarters.
SG35 Stow "separated from" acids.

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

Not applicable.

· **Transport/Additional Information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L
Special marking with the symbol (fish and tree).

· **Remarks:**

· **ADR**

· **Excepted quantities (EQ)**

Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)**
· **Excepted quantities (EQ)**

5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.
(POLYAMIDOAMINE, DIETHYLENETRIAMINE), 8, III

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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)**

80-05-7	Bisphenol A	5-<10%
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· **Section 311/312 (Hazardous Chemical Inventory Reporting)**

111-40-0	Diethylenetriamine	A, C	10-<20%
80-05-7	Bisphenol A	A, C	5-<10%
112-57-2	Tetraethylenepentamine	A	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)**

All ingredients are listed.

· **Proposition 65**

· **Chemicals Known to Cause Cancer**

None of the ingredients is listed.

· **Chemicals Known to Cause Reproductive Toxicity for Females**

80-05-7	Bisphenol A
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· **Chemicals Known to Cause Reproductive Toxicity for Males**

None of the ingredients is listed.

· **Chemicals Known to Cause Developmental Toxicity**

None of the ingredients is listed.

· **Carcinogenic Categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **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**

· **Canadian Domestic Substance Listings:**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

111-40-0	Diethylenetriamine
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· **Canadian Ingredient Disclosure list (limit 1%)**

80-05-7	Bisphenol A
112-57-2	Tetraethylenepentamine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica

· **Chinese Chemical Inventory of Existing Chemical Substances:**

All ingredients are listed.

· **Japanese Existing and New Chemical Substance List:**

All ingredients are listed.

· **Korean Existing Chemical Inventory:**

All ingredients are listed.

· **European Pre-registered substances:**

All ingredients are listed.

· **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.

Safety Data Sheet acc. to OSHA HCS

Print Date 12/18/2015

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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
 - CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
 - CLP/GHS: CLP (Classification, Labelling and Packaging of substances and mixtures) implements the Globally harmonised System (GHS) under Regulation (EC) No 1272/2008.
 - 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)
 - 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
 - SIDS SIAM(R): SIDS Initial Assessment Meetings(Reports)
 - 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
- **Date of preparation / last revision** 12/18/2015 / 2