

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Product Identifier

Trade Name: EP1290 GRAY 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



GHS07

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.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Label Elements

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

Pictogram(s)



GHS07

Signal Word Warning

Hazard-determining Component(s)

Polyamide Resin
Bis(2-ethylhexyl) phthalate
Triethylenetetramine

Hazard statements

Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves.
Wear eye protection / face protection.
Avoid release to the environment.
Wash thoroughly after handling.
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.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 1)

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

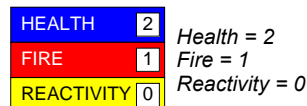
Prevention

- Avoid breathing dust/fume/gas/mist/vapors/spray
- Wear protective gloves/protective clothing/eye protection/face protection.
- Avoid release to the environment.
- Wash thoroughly after handling.
- Contaminated work clothing must not be allowed out of the workplace.

Disposal 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

HMIS System
HMIS Ratings (scale 0 - 4)

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: 92704-41-1 EINECS: 296-473-8	Calcined Kaolin	30-40%
	Polyamide CAS not available per 29CFR1910.1200(i) ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	30-40%
CAS: 68410-23-1 EC number: 614-452-7	Polyamide Resin ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319 Aquatic Chronic 3, H412	10-20%
CAS: 61788-32-7 EINECS: 262-967-7 RTECS: WZ6535000	Hydrogenated Terphenyl Aquatic Chronic 4, H413	5-<10%
	Amino ether -CAS withheld per 29CFR1910.1200(i). ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	2.5-5%
CAS: 68956-74-1 EINECS: 273-316-1	Polyphenyls, quater- and higher, partially hydrogenated	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.

 US
 (Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 2)

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. Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.

After Skin Contact

Remove all contaminated clothing and wash before reuse.
Wash contaminated skin with water and soap and rinse thoroughly.
Seek immediate medical advice.

After Eye Contact

Immediately bathe eyes for 15 minutes under running water.
Immediately remove contact lenses if present. Continue rinsing.
Seek immediate 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.
Seek medical treatment in case of complaints.

After Exposure Seek medical treatment in case of complaints.

Information for Doctor Have chemical containers, labels and/or (M)SDS ready when calling or visiting a medical center.

Indication of any Immediate Medical Attention and Special Treatment Needed

After frequent or high intense exposure, the following medical tests are recommended:
eye tests
skin tests
Check section 11 Toxicological Information for further relevant information.

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) No relevant information.

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.
Use water spray or water fog to cool fire-exposed containers.
Burning liquids may be moved by flushing with water; protect personnel and minimize property damage.
Contain fire water runoff if possible to prevent environmental pollution.
Use water in flooding quantities as fog.

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 3)

Fight fire from protected location or safe distance.
Contain fire water runoff if possible to prevent environmental pollution.

Special Hazards Arising in Fire

Will not burn unless preheated.
May evolve flammable hydrogen (H_2) in contact with metals when heated or in a fire.
In case of fire, following can be released:
nitric acid
May generate ammonia gas.
Carbon dioxide (CO_2) and Carbon monoxide (CO)
Nitrogen oxides
Silicon oxide (SiO_2)
Titanium oxides
Aluminum oxide (Al_2O_3) dust, a serious respiratory irritant, may be formed during fires.
Iron oxides

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

Keep away from sewage system or other water courses; do not penetrate ground/soil.
Inform respective authorities in case of any seepage to the environment.

Cleaning Up Methods

Ensure adequate ventilation.
Eliminate all ignition sources.
Keep unauthorized personnel away.
For large spills:
Shut off source of leak if safe to do so.
Dike and contain.
Remove with vacuum trucks or pump to storage/salvage vessels.
Allow molten product to cool.
Absorb residues with liquid-binding materials.
For small spills:
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.

Additional Information No further relevant information.

7 Handling and storage

Handling

Precautions for Safe Handling

Obtain special instruction before use; do not handle until all safety precautions have been read and understood.
Do not breathe gas, vapors, dusts or mists if their inhalable particles occur during handling.
Wear respiratory protection when handling.
Keep away from incompatible material(s).
Avoid any release into the environment.
Observe all the personal protection requirements in Section 8.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 4)

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.
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

61788-32-7 Hydrogenated Terphenyl

REL	Long-term value: 5 mg/m ³ , 0.5 ppm
TLV	Long-term value: 4.9 mg/m ³ , 0.5 ppm nonirradiated

112-24-3 Triethylenetetramine

WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
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1333-86-4 Carbon black

PEL	Long-term value: 3.5 mg/m ³
REL	Long-term value: 3.5* mg/m ³ *0.1 in presence of PAHs; See Pocket Guide Apps.A+C
TLV	Long-term value: 3* mg/m ³ *inhalable fraction

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.
Keep food, drink or feed away from working area.
Contaminated work clothing is not allowed out of workplace.
Clean hands and exposed skin thoroughly after work and before breaks.

Personal Protective Equipment (PPE)

Breathing Equipment

Caution! Improper use of respirators is dangerous.
In case of brief exposure or low pollution, use a respiratory filter device.
In case of intensive or longer exposure, use a positive-pressure respiratory protective device that is independent of circulating air.

Hand Protection



Protective gloves

Selection of glove material should take into consideration the penetration times, rates of diffusion, and the degradation.
Suggested glove type(s):
Nitrile Gloves

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 5)

Butyl Rubber Gloves

Eye Protection


Tightly sealed goggles

Body Protection

Where the potential for over-exposure exists, the following protective work clothing is recommended:

Tychem® BR Coveralls

Responder® Coveralls

Trelchem® HPS and VPS Coveralls

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
- **Color:** Gray
- **Odor:** Amine-like
- **Odor Threshold:** Not determined.

 · **PH-Value:** Not determined.

Change in Condition:

- **Melting Point:** Not determined.
- **Boiling Point:** >221 °C (>430 °F)
- **Flash Point:** > 93 °C (> 199 °F)
- **Decomposition Temperature:** Not determined.
- **Auto-ignition 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 25 °C (77 °F):** 1.31 g/cm³ (10.932 lbs/gal)

Solubility in or Miscibility with

- **Water:** Not miscible or difficult to mix.
- **Segregation coefficient LogPow (n-octanol/water):** Not determined.
- **Viscosity:**
 - **Dynamic at 20 °C (68 °F):** 70000 mPas
 - **Kinematic:** Not determined.

Additional Information

No further relevant information.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 6)

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)** No further relevant information available.
- **Incompatible Material(s)**
 Oxidizing agents
 Cyanides
 Strong acids
 Chlorinated hydrocarbons
 Zinc and Galvanized Surfaces
 Copper and copper alloys
 Aluminum
 Nickel
 Cobalt
- **Hazardous Decomposition Product(s)**
 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.
- **Additional Information** No further relevant information.

11 Toxicological information

Acute Toxicity

Oral	
92704-41-1 Calcined Kaolin	
Oral LD50	> 5000 mg/kg (rat) (EPA OPP81-1; Read-across from supporting substance (structural analogue or surrogate; no identification available)) All animals survived, and appeared active and healthy after a single oral administration of 5000 mg/kg bw of the substance. Reference: ECHA (2011).
68410-23-1 Polyamide Resin	
Oral LD50	> 5000 mg/kg (Test species: n/a) Reference: Cognis (M)SDS (2007).
61788-32-7 Hydrogenated Terphenyl	
Oral LD50	12500 mg/kg (mouse) (Adamson and Weeks method) > 10000 mg/kg (rat) (OECD TG 401) Reference: IUCLID Dataset (2000).
Amino ether -CAS withheld per 29CFR1910.1200(i).	
Oral LD50	4310 mg/kg (rat)
68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated	
Oral LD50	>2000 mg/kg (rat)
26140-60-3 Terphenyls	
Oral LD50	2604 mg/kg (rat) (OECD TG 401) LD50 (male rats) = 2925 mg/L LD50 (female rats) = 2304 mg/L Reference: ECHA (2011).

Potential Health Effect(s):

abnormal pain
 shock or collapse
 See acute inhalative effect(s) for further information

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 7)

Dermal

92704-41-1 Calcined Kaolin

Dermal	LD50	> 5000 mg/kg (rat) (EPA OPP81-2; semioclusive; Read-across from supporting substance (structural analogue or surrogate; no identification available)) All animals survived, gained weight, and appeared active and healthy after a single dermal administration with 5000 mg/kg bw of the test substance. Reference: ECHA (2011).
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68410-23-1 Polyamide Resin

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.
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61788-32-7 Hydrogenated Terphenyl

Dermal	LD50	6800 mg/kg (rabbit) (LD50; Industrial biotest laboratory method) > 2000 mg/kg (rabbit) (LD0; OECD TG 402) No deaths, no abnormalities at gross necropsy, and no abnormal physical observations were evident. Reference: IUCLID Dataset (2000) and ECHA (2011).
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Amino ether -CAS withheld per 29CFR1910.1200(i).

Dermal	LD50	2510 mg/kg (rat)
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68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Dermal	LD50	>2000 mg/kg (rabbit)
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26140-60-3 Terphenyls

Dermal	LD50	> 5000 mg/kg (rabbit) (OECD TG 402) No deaths were observed after a single dermal administration with 5000 mg/kg of the substance. Reference: ECHA (2011).
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Potential Health Effect(s):

No further relevant information available; classification is not possible.
See acute inhalative effect(s) for further information.

Inhalative

92704-41-1 Calcined Kaolin

Inhalative	LC50/4 h	(Test species: n/a) Due to the wetted form, inhalative effects of the substance can be seen as negligible
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68410-23-1 Polyamide Resin

Inhalative	LC50/4 h	(Test species: n/a) (Toxicity not expected based on acute oral data)
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61788-32-7 Hydrogenated Terphenyl

Inhalative	LC50/4 h	(rat) > 4.7 mg/l (OECD TG 403) 5 out of 36 rats died after a single 4hr inhalative administration with 4.7 mg/l of the substance; classification was not possible without further information. Reference: ECHA (2011).
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68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Inhalative	LC50/4 h	>3.8 mg/l (rat)
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26140-60-3 Terphenyls

Inhalative	LC50/4 h	(rat) (LC0> 3.8mg/l; OECD TG 403; no death occurred) No death occurred; classification was not possible without further information. Reference: ECHA (2011).
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Potential Health Effect(s):

While not possible to classify the acute inhalative hazard due to missing data, the product may cause the following symptom(s):
cough
shortness of breath
sore throat
wheezing

(Contd. on page 9)

US

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 8)

Skin Corrosion or Irritation

92704-41-1 Calcined Kaolin

Corrosion/Irritation (rabbit)
(OECD TG 404; semiocclusive; Read-across from supporting substance (structural analogue or surrogate; no identification available))
Erythema and edema: 0 (Time-point: 24, 48 hrs and 72hrs; mean score of all treated animals)
Thus, the substance was not irritating to rabbit skin.
Reference: ECHA (2011).

Polyamide CAS not available per 29CFR1910.1200(i)

Corrosion/Irritation moderate (Test species: n/a)

68410-23-1 Polyamide Resin

Corrosion/Irritation irritating (Test species: n/a) (Experiment)
Based on HSNO CCID, the substance caused corrosive effects to dermal and ocular tissue with over 5% concentration of the substance in a non-hazardous diluent; however, there was no data validity, or experimental results or not, available for that conclusion. Meanwhile, there was experimental data available from Cognis (M)SDS, the substance was severely irritating to skin. When considering the weight of evidence, the substance was considered as irritating (Category 2) to skin.
Reference: HSNO CCID (2010) and Cognis (M)SDS (2007).

61788-32-7 Hydrogenated Terphenyl

Corrosion/Irritation not irritating (rabbit) (Draize test)
Primary dermal irritation index (PDII): 0.1/8 (Max. 8; Time table: 24+72 hrs; mean score of all treated animals); fully reversible within 72 hrs. The substance was therefore not irritating to rabbit skin under the classification criteria.
Reference: IUCLID Dataset (2000).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Corrosion/Irritation (No data available)

26140-60-3 Terphenyls

Corrosion/Irritation not irritating (rabbit) (OECD TG 404; 0.5g neat substance; 24 hr-exposure)
Primary dermal irritation: 0.1/8 (Max. 8; Time point: 24+72 hrs; Mean score of all treated animals); fully reversible within 10 days. The substance was therefore not classified as irritating to skin.
Reference: ECHA (2011).

Potential Health Effect(s):

Causes skin irritation.
In contact with skin, may cause:
blister formation
redness and pain

Eye Serious Damage or Irritation

92704-41-1 Calcined Kaolin

Damage/Irritation (rabbit)
(EPA OPPTS 870.2400; 0.1 mL neat substance; Read-across from supporting substance (structural analogue or surrogate; no identification available))
Cornea, iris, and chemosis: 0 (Time point: 24+48+72hrs; mean score of 3 rabbits)
Conjunctiva: 0.33/3 (Max. 3; 1 out of 3 rabbits; Time point: 24 hrs); fully reversible in 48hrs
Conjunctiva: 0 (Max. 3; 2 out of 3 rabbits; Time point: 24+48+72hrs)
Thus, the substance was not irritating to rabbit eyes based on the classification criteria.
Reference: ECHA (2011).

Polyamide CAS not available per 29CFR1910.1200(i)

Damage/Irritation moderate (Test species: n/a)

68410-23-1 Polyamide Resin

Damage/Irritation irritating (Test species: n/a) (Experiment)
Based on HSNO CCID, the substance caused corrosive effects to dermal and ocular tissue with over 5% concentration of the substance in a non-hazardous diluent; however, there was no data validity, or experimental results or not, available for that conclusion. Meanwhile, there was experimental data available from Cognis (M)SDS, the substance was severely irritating to eyes. When considering the weight of evidence, the substance was considered as severely irritating (Category 2A) to eyes.
Reference: HSNO CCID (2010) and Cognis (M)SDS (2007).

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 9)

61788-32-7 Hydrogenated Terphenyl

Damage/Irritation not irritating (rabbit) (OECD TG 405; 0.1ml neat substance)
 Draize score: 0.3/110 (Max. 110; Time table: 24+48+72 hrs; mean score of all treated animals); fully reversible within 48 hrs. The substance was therefore not classified as irritating to rabbit eyes.
 Reference: IUCLID Dataset (2000).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Damage/Irritation (No data available)

26140-60-3 Terphenyls

Damage/Irritation not irritating (rabbit) (OECD TG 405; 0.1ml neat substance;)
 Overall irritation score: 0.6/110 (Max. 110; Time-point: 24+48+72 hrs; Mean score of all treated animals); fully reversible within 2 days after application. The substance was therefore not classified as irritating to rabbit eyes.
 Reference: ECHA (2011).

Potential Health Effect(s):

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

Respiratory or Skin Sensitization
92704-41-1 Calcined Kaolin

Sensitization	Skin	not sensitizing (mouse) (OECD TG 429; Read-across from 1335-30-4) None of the measured parameters reached or exceeded the positive levels that can define sensitization by comparing the treated animals with the control groups. Reference: ECHA (2011).
	Respiratory	(Test species: n/a) Due to the wetted form, inhalative effects of the substance can be seen as negligible.

68410-23-1 Polyamide Resin

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

61788-32-7 Hydrogenated Terphenyl

Sensitization	Skin	not sensitizing (Human) (Repeated Insult Patch Test; 0.2ml neat substance) No positive results were observed after 24 hour-exposure to a 0.2 ml neat substance in 50 human individuals. Reference: IUCLID Dataset (2000).
	Respiratory	(No data available)

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

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

26140-60-3 Terphenyls

Sensitization	Skin	not sensitizing (guinea pig) Although there was description that sensitizing property was acknowledged in some animal experiments, their positive rate was not indicated. Therefore GHS-J could not classify it as a dermal sensitizer due to the insufficiency of data. Reference: GHS-J (2006).
	Respiratory	(No data available)

Potential Health Effect(s):

May cause an allergic skin reaction.
 No relevant information for respiratory sensitization; classification is not possible.

OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

(Contd. on page 11)

US

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 10)

Germ Cell Mutagenicity

92704-41-1 Calcined Kaolin

Mutagenicity (Test species listed below)
(Read-across from supporting substance (structural analogue or surrogate; no identification available))
In Vitro (bacterial reverse mutation assay; TA97a, TA98, TA100, TA102, TA1535 Salmonella typhimurium; OECD TG 471) - negative with and without metabolic activation
In Vitro (mammalian chromosome aberration test; human embryonic lung cultures) - negative without metabolic activation
In Vitro (mammalian cell gene mutation assay; CHO-K1-BH4 (Chinese Hamster Ovary); OECD TG 476) - negative with and without metabolic activation
In Vivo (chromosome aberration assay; rat; oral with up to 425 mg/kg bw; OECD TG 475) - negative; no detectable significant aberration of the bone marrow metaphase chromosomes was observed.
Thus, the substance can be considered as non-mutagenic.
Reference: ECHA (2011).

68410-23-1 Polyamide Resin

Mutagenicity (No data available)

61788-32-7 Hydrogenated Terphenyl

Mutagenicity negative (Test species listed below)
In Vitro (Mammalian cell gene mutation assay; Chinese hamster Ovary) - negative with and without metabolic activation.
In Vitro (DNA damage and repair assay; rat hepatocytes) - negative with and without metabolic activation.
In Vitro (Bacterial reverse mutation assay; S. typhimurium TA 1535, TA 1537, TA 98 and TA 100) - negative with and without metabolic activation.
In Vivo (Chromosome aberration assay; OECD TG 475; rat; intraperitoneal with up to 2500 mg/kg bw) - negative; the substance didn't induce chromosomal damage in male or female rats in this study.
Reference: ECHA (2011).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Mutagenicity (No data available)

26140-60-3 Terphenyls

Mutagenicity negative (Test species listed below)
In Vitro (Ames tests in salmonella typhimurium strains) - negative with and without metabolic activation
In Vitro (DNA damage and repair assay in rat hepatocytes) - negative
In Vitro (HGPRT assay in CHO cells) - negative with and without metabolic activation
In Vitro (Mammalian cell gene mutation assay in CHO cells) - negative with and without metabolic activation
Reference: IUCLID Dataset (2000).

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

Carcinogenicity

92704-41-1 Calcined Kaolin

Carcinogenicity (rat)
(Read-across from supporting substance (structural analogue or surrogate; no identification available))
NOAEL (Oral; OECD TG 453; 103 weeks; both males and females) = 1760 mg/kg bw/day: there was no adverse effect regarding carcinogenicity observed during the 103-week oral study. Thus, the substance was not classified as a carcinogen.
Reference: ECHA (2011).

Polyamide CAS not available per 29CFR1910.1200(i)

Carcinogenicity (Test species: n/a)
This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater

68410-23-1 Polyamide Resin

Carcinogenicity (Test species: n/a) (Not listed as a Carcinogen by NTP, IARC or OSHA)
Reference: Cognis (M)SDS (2007).

61788-32-7 Hydrogenated Terphenyl

Carcinogenicity negative (Test species: n/a)
Not listed as a carcinogen according to ACGIH, IARC, NTP, or OSHA.

Amino ether -CAS withheld per 29CFR1910.1200(i).

Carcinogenicity (Test species: n/a)
This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Carcinogenicity (No data available)

(Contd. on page 12)

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 11)

26140-60-3 Terphenyls

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

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

Reproductive Toxicity

92704-41-1 Calcined Kaolin

Reproductive Toxi. negative (rabbit)
(Read-across from supporting substance (structural analogue or surrogate; no identification available))
NOAEL (Maternal toxicity and teratogenicity; Oral; Day 6 to 18 of gestation) = 1600 mg/kg bw/day (maximum dose test). There was no developmental toxicity observed.
Reference: ECHA (2011).

68410-23-1 Polyamide Resin

Reproductive Toxi. (No data available)

61788-32-7 Hydrogenated Terphenyl

Reproductive Toxi. negative (rat)
NOAEL (Reproductive toxicity; OECD TG 416; Oral with up to 1000 ppm; P and F1 generations) = 1000 ppm; there were no reproductive toxicities observed.
NOAEL (Fetotoxicity; OECD TG 414; Oral with up to 1500 mg/kg bw/day) = 500 mg/kg bw/day; effects including reduced fetal weights and increased incidence of fetuses with certain ossification variations were observed at high dose levels.
NOAEL (Developmental toxicity/teratogenicity; rat; Oral with up to 2000 mg/kg bw/day) = 1000 mg/kg bw/day. At 2000 mg/kg bw/day, embryonic death and decreased fetal weights were observed. NOAEL (Maternal) = 250 mg/kg bw/day. When considering all of the evidence, there were no adverse effects observed in fetuses at the non-toxic dose levels for parental animals; the substance was therefore not considered as a reproductive hazard.
Reference: ECHA (2011).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Reproductive Toxi. (No data available)

26140-60-3 Terphenyls

Reproductive Toxi. (No data available)

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

Specific Target Organ Toxicity - Single Exposure

92704-41-1 Calcined Kaolin

STOT-Single (rat)
(Read-across from supporting substance (structural analogue or surrogate; no identification available))
Target organ: None
All animals survived, and appeared active and healthy after a single oral administration of 5000 mg/kg bw, or a single dermal application of 5000 mg/kg bw of the substance during a 14 day observation period.
Reference: ECHA (2011).

68410-23-1 Polyamide Resin

STOT-Single (No data available)

61788-32-7 Hydrogenated Terphenyl

STOT-Single (rat) (Respiratory tract irritant via Inhalation)
Effects including increased salivation, discharge/encrustation of noses and eyes, labored breathing, and prostration were all observed after a single inhalative administration with 4.3 mg/l aerosol of the substance for 4 hours. Based on the dose level, the substance was classified as a respiratory tract irritant.
Reference: IUCLID Dataset (2000).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

STOT-Single (No data available)

26140-60-3 Terphenyls

STOT-Single (rat) (Respiratory tract irritant)
Red encrustation around eyes and noses, labored breathing and salivation observed after inhalation with 3.6 mg/L of the substance which were all disappeared in 7 or 14 days. For safety reason, category 3 was chosen.
Reference: ECHA (2011).

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

(Contd. on page 13)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 12)

Specific Target Organ Toxicity - Repeated Exposure

92704-41-1 Calcined Kaolin

STOT-Repeated | negative (rat)
 (Read-across from supporting substance (structural analogue or surrogate; no identification available))
 Target organ: None
 NOAEL (Oral; OECD TG 453; 103 weeks; both males and females) = 1760 mg/kg bw/day; there was no systemic effect observed during the 103-week oral study. The NOAEL was outside of guidance value ranges; not classified.
 Reference: ECHA (2011).

68410-23-1 Polyamide Resin

STOT-Repeated | (No data available)

61788-32-7 Hydrogenated Terphenyl

STOT-Repeated | N/A (rat)
 LOAEL (OECD TG 408; Oral with up to 2000 ppm (120 mg/kg/day) for 90 days) = 120 mg/kg/day; differences were noticed in hematology levels, kidneys, and livers by comparing with the negative controlled groups.
 LOAEL (Inhalation with 0.01 mg/l and 0.05 mg/l of the substance; aerosol; 6 hrs/day; 5 days/week) = 0.05 mg/l. Changes of hematology level (glucose, BUN, SAP, SGOT, SGPT) and liver weight were noticed at dose level of 0.05 mg/l. However, ECHA concluded the results were conclusive but not sufficient for the classification.
 Reference: ECHA (2012).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

STOT-Repeated | (No data available)

26140-60-3 Terphenyls

STOT-Repeated | (No data available)

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

Aspiration Hazard

92704-41-1 Calcined Kaolin

Aspiration Hazard | (No data available)

68410-23-1 Polyamide Resin

Aspiration Hazard | (No data available)

61788-32-7 Hydrogenated Terphenyl

Aspiration Hazard | (No data available)

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Aspiration Hazard | (No data available)

26140-60-3 Terphenyls

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

92704-41-1 Calcined Kaolin

Algae Toxicity | > 100 mg/l (Scenedesmus subspicatus) (ErC50 (72 hrs); OECD TG 201)
 Crustacean Toxicity | > 1 mg/l (Daphnia magna (water flea)) (EC50 (96 hrs); OECD TG 202)
 Fish Toxicity | (Oncorhynchus mykiss (Rainbow trout))
 LC50 (96 hrs; OECD TG 203) > 100 mg/L
 NOEC(30 day; growth rate) = 100 mg/L
 When considering all of the evidence, the substance is not classified as an environmental hazard.
 Reference: ECHA (2011) and IUCLID Dataset (2000).

68410-23-1 Polyamide Resin

Algae Toxicity | 1.1 - 2.2 mg/l (Scenedesmus quadricauda (Green algae)) (EC50 (96 hrs, OECD TG 201))
 (Read-across from 68140-00-1, 68155-06-6&68603-42-9)

(Contd. on page 14)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 13)

Crustacean Toxicity	2.25 mg/l (Ceriodaphnia dubia) (EC50 (48 hrs)) (Read-across from 68603-42-9; EPA-600/3-88-034(-36))
Fish Toxicity	3.6 mg/l (Brachydanio rerio (Zebra fish)) (LC50 (96 hrs)) (Read-across from 68603-42-9; ISO 7346/1-3) 2.6 mg/L (Pimephales promelas (fathead minnow)) (LC50 (96 hrs); Read-across from 93-83-4) Based on the non-rapid degradability and the acute LC50 < 10 mg/L, the substance is classified as a Chronic-2 environmental hazard. Reference: IUCLID Dataset (2000) and EPA HPVIS (2010).

61788-32-7 Hydrogenated Terphenyl

Algae Toxicity	> 0.53 mg/l (Pseudokirchneriella subcapitata) (EC50 (96 hrs); OECD TG 201)
Crustacean Toxicity	(Daphnia magna (water flea)) 0.1 mg/l (EC50 (48 hrs); OECD TG 202) > 0.53 mg/l (Gammarus fasciatus) (EC50 (48 hrs); EPA-560/6-82-0023) > 0.53 mg/l (Paratanytarsus parthenogenica) (EC50 (48 hrs); EPA-660/3-75-009)
Fish Toxicity	> 0.53 mg/l (Pimephales promelas (fathead minnow)) (LC50 (96 hrs); OECD TG 203) > 0.53 mg/l (Oncorhynchus mykiss (Rainbow trout)) (LC50 (96 hrs); OECD TG 203) Water solubility = 0.53 mg/l; based on the classification criteria and weight of all evidence together, the substance fell into "Safety net" Classification (Category 4) for environmental hazard. Reference: IUCLID Dataset (2000).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

Algae Toxicity	(No data available) .103 mg/l (Green Algae)
Crustacean Toxicity	(No data available) (Daphnia magna (water flea))
Fish Toxicity	(No data available)

26140-60-3 Terphenyls

Algae Toxicity	0.102 mg/l (Pseudokirchneriella subcapitata) (EC50 (72 hrs); OECD TG 201)
Crustacean Toxicity	0.022 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); Methods according to US EPA (1975))
Fish Toxicity	27 mg/l (Oncorhynchus mykiss (Rainbow trout)) (LC50 (96 hrs), Methods according to US EPA (1975)) 0.049 mg/l (Pimephales promelas) (Maximum acceptable toxicant concentration (MATC; 34 days); MATC > NOAEC) Based on the non-rapid degradability and the Chronic MATC < 0.1 mg/l, the substance is classified as a Chronic-1 environmental hazard with a M factor 10 by ECHA. Reference: ECHA (2011).

Aquatic Environmental Toxicity Assessment: Harmful to aquatic life with long lasting effects.

Degradability and Stability
92704-41-1 Calcined Kaolin

Biodegradation	(No data available) As an inorganic metal compound, biodegradation of the substance is not expected.
Persistence	(Test species: n/a) The substance is persistent. Reference: Canada DSL (2007)
Photodegradation	(No data available) As an inorganic metal compound, photodegradation of the substance is not expected.
Stability in water	(Test species: n/a) (Directive 84/449/EEC; abiotic; at 25 °C) Half-life (PH= 4, 7 and 9) > 1 year; the substance is expected to be hydrolytically stable. Reference: IUCLID Dataset (2000).

68410-23-1 Polyamide Resin

Biodegradation	(Test species: n/a) (The substance is poorly biodegradable) Reference: Cognis (M)SDS (2007).
Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	(No data available)
Stability in water	(No data available)

(Contd. on page 15)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 14)

61788-32-7 Hydrogenated Terphenyl

Biodegradation	not biodegrad. (Test species: n/a) (OECD TG 301C; 28 days; Chemical conc. 100 mg/L) Biodegradation (Direct analysis from GC) = 16% Biodegradation (Indirect analysis from BOD) = 6% The substance is not biodegradable. Reference: CHIRP (2011).
Persistence	(Test species: n/a) The substance is persistent. Reference: CHIRP (2011).
Photodegradation	(No data available)
Stability in water	(No data available)

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

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)

26140-60-3 Terphenyls

Biodegradation	not biodegrad. (Test species: n/a) (OECD TG 301C) Degradation (2 weeks; Direct analysis from GC) = 3.9% Degradation (2 weeks; Indirect analysis from BOD) = 0.5% The substance is not biodegradable. Reference: CHRIP (2011).
Persistence	(Test species: n/a) The substance is not persistent. Reference: Canada DSL (2007).
Photodegradation	(Test species: n/a) Half-life (concentration: 20 mg/L, in water) > 29 days Thus, photodegradation is not expected to be the significant pathway for degradation. Reference: IUCLID Dataset (2000).
Stability in water	(No data available)

Bioaccumulation and Distribution
92704-41-1 Calcined Kaolin

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

68410-23-1 Polyamide Resin

BCF	(No data available)
Koc	(No data available)
LogPow	(No data available)

61788-32-7 Hydrogenated Terphenyl

BCF	(Cyprinus carpio) 6300 (Chemical concentration: 0.199 µg/L) 9200 (Chemical concentration: 1.99 µg/L) The substance is highly bioaccumulative. Reference: CHIRP (2011).
Koc	(No data available)
LogPow	> 6.5 (Test species: n/a) (OECD TG 117) Reference: ECHA (2011).

68956-74-1 Polyphenyls, quater- and higher, partially hydrogenated

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

(Contd. on page 16)

Safety Data Sheet
acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 15)

LogPow	(No data available)
26140-60-3 Terphenyls	
BCF	15 - 80 (Cyprinus carpio) (Test concentration: 0.25 ppm) BCF (0.025 ppm) = 21 - 129 The substance is non or not highly bioaccumulative. Reference: CHRIP (2011).
Koc	(No data available)
LogPow	5.86 (Test species: n/a) (at 22 °C) Reference: CHRIP (2011).

Degradability and Bioaccumulation Assessment: Non-rapidly degradable, and low bioaccumulative.

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	Not regulated for transport; not applicable.
Transport hazard class(es)	Not regulated for transport; not applicable.
Packing group	Not regulated for transport; not applicable.
Environmental Hazards:	Not applicable.
Special Precautions:	Not applicable.
Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
UN "Model Regulation":	-

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)

None of the ingredients is listed.

Section 311/312 (Hazardous Chemical Inventory Reporting)

68410-23-1	Polyamide Resin	A	10-<20%
112-24-3	Triethylenetetramine	A	0.1-<1%

(Contd. on page 17)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 16)

1333-86-4 Carbon black

A, C 0-<0.1%

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)

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
1317-70-0	Anatase
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

Proposition 65
Chemicals Known to Cause Cancer

This product contains a chemical known in the State of California to cause cancer.

1333-86-4 Carbon black

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)

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)

1333-86-4 Carbon black

A4

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

International Regulation Lists
Canadian Domestic Substance Listings:

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

(Contd. on page 18)

Safety Data Sheet

acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 17)

Canadian Ingredient Disclosure list (limit 0.1%)

112-24-3	Triethylenetetramine
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Canadian Ingredient Disclosure list (limit 1%)

None of the ingredients is listed.

Chinese Chemical Inventory of Existing Chemical Substances:

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
1317-70-0	Anatase
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

Japanese Existing and New Chemical Substance List:

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
1317-70-0	Anatase
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

Korean Existing Chemical Inventory:

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
1317-70-0	Anatase
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

European Pre-registered substances:

92704-41-1	Calcined Kaolin
68410-23-1	Polyamide Resin
61788-32-7	Hydrogenated Terphenyl
68956-74-1	Polyphenyls, quater- and higher, partially hydrogenated
1317-70-0	Anatase
112-24-3	Triethylenetetramine
26140-60-3	Terphenyls
8013-07-8	Oils, soybean, epoxidized
1333-86-4	Carbon black

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.

 US
 (Contd. on page 19)

Safety Data Sheet acc. to OSHA HCS

Print Date 05/01/2015

Revision Date 05/01/2015

Trade Name: EP1290 GRAY B

(Contd. of page 18)

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

ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road

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

DOT: US Department of Transportation

HMS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System

IARC: International Agency for Research on Cancer developed by United Nations World Health Organisation (WHO)

ICAO-TI: Technical Instructions (TI) by the International Civil Aviation Organization (ICAO)

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)

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

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

SARA: US Superfund Amendments and Reauthorization Act

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

TSCA: US Toxic Substance Control Act

ACToR: US EPA Aggregated Computational Toxicology Resource

BCF: Bioconcentration Factor

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

DSL: Canada Domestic Substance List

ESIS: European Chemical Substances Information System

HSDB: US NLM TOXNET Hazardous Substances Databank

HSNO CCID: New Zealand Hazardous Substances and New Organisms Chemical Classification Information Database

IATA-DGR: Dangerous Goods Regulations (DGR) by the International Air Transport Association (IATA)

ICSC: International Chemical Safety Cards

Koc: Partition coefficient, soil Organic Carbon to water

NITE: National Institute of Technology and Evaluation, Japan

OECD: Organisation for Economic Co-operation and Development

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

SIDS: OECD existing chemicals Screening Information Data Sets

SVHC: EU ECHA Substance of Very High Concern

TOXLINE: US NLM bibliographic database search system

CCR: Canadian Categorization Results

ChemID (Full Record): US NLM Chemical Information Database (or its Full Record) designed to help search for information by chemical name or structure

· **Date of preparation / last revision** 05/01/2015 / 5