

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Product Identifier

Trade Name: EP11HTFS 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



GHS08 Health hazard

Repr. 2

H361 Suspected of damaging fertility or the unborn child.



GHS05 Corrosion

Skin Corr. 1B

H314 Causes severe skin burns and eye damage.

Eye Dam. 1

H318 Causes serious eye damage.



GHS09 Environment

Aquatic Acute 1

H400 Very toxic to aquatic life.



GHS07

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)



GHS05



GHS07



GHS08



GHS09

Signal Word

Danger

Hazard-determining Component(s)

Polyamide Resin
4-Nonylphenol, branched
N-(2-Aminoethyl)piperazine
Triethylenetetramine
Siloxanes and Silicones, di-Me, reaction products with silica

(Contd. on page 2)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 1)

Hazard statements

Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Suspected of damaging fertility or the unborn child.
Very toxic to aquatic life.
Harmful to aquatic life with long lasting effects.

Precautionary statements

Do not breathe dusts or mists.
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.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
IF ON SKIN (or hair): Remove/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.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
Collect spillage.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray

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.

(Contd. on page 3)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 2)

vPvB: Not applicable.

3 Composition/information on ingredients

Chemical Characterization: Mixtures

Composition/Information on Ingredients

CAS: 68410-23-1	Fatty acids, C18 unsatd., dimers, reaction products with polyethylenepolyamines ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	30-40%
CAS: 1317-65-3 EINECS: 215-279-6 RTECS: EV 9580000	Calcium Carbonate	30-40%
CAS: 84852-15-3 EINECS: 284-625-5 Index Number: 601-053-00-8	4-Nonylphenol, branched ⚠ Repr. 2, H361 ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Aquatic Chronic 1, H410 ⚠ Acute Tox. 4, H302	10-20%
CAS: 140-31-8 EINECS: 205-411-0 Index Number: 612-105-00-4 RTECS: TK 8050000	N-(2-Aminoethyl)piperazine ⚠ Acute Tox. 3, H311 ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317 ⚠ Aquatic Acute 3, H402; Aquatic Chronic 3, H412	5-<10%
CAS: 67762-90-7 EC number: 614-122-2	Siloxanes and Silicones, di-Me, reaction products with silica	5-<10%

Classification System:

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

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.

If breathing is difficult, administer oxygen.

Seek immediate medical advice.

After Skin Contact

As quickly as possible remove contaminated clothing, shoes, and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Immediately flush with lukewarm water for 15 minutes. Completely decontaminate clothing, shoes, and leather goods before reuse or discard. If irritation persists, obtain medical advice.

After Eye Contact

Immediately rinse opened eyes for at least 15 minutes under running water.

Immediately remove contact lenses if present. Continue rinsing.

Do not put any ointments, oils or medication in eyes without specific instructions.

IMMEDIATELY transport victim to a hospital even if no symptoms develop.

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.

If victim is conscious, rinse out mouth and give two glasses of water.

Call a doctor immediately.

If vomiting occurs spontaneously, keep victim's head below hips to prevent aspiration of liquid into lungs.

(Contd. on page 4)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 3)

Seek immediate medical advice.

• **After Exposure** Get medical advice/attention at once.

• **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

kidney tests

Reproductive system function 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)** 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.

Runoff from fire control or dilution water may be corrosive and/or toxic; protect personnel and minimize property damage.

Contain fire water runoff if possible to prevent environmental pollution.

No information available.

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.

In case of fire, following can be released:

Various hydrocarbons

Ammonia gas may be liberated at high temperatures.

nitric acid

Aldehydes and ketones.

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

Carbon dioxide (CO₂) and Carbon monoxide (CO)

Nitrogen oxides

Calcium oxide (CaO)

Silicon oxide (SiO₂)

• **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.

US

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 4)

6 Accidental release measures

Personal Precautions

Do not touch damaged containers or spills unless wearing appropriate protective equipment.
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.
Absorb residues with liquid-binding materials.
For small spills:
Ventilate and wash area after clean-up is complete.
Store in a sealed containers for disposal.
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.
Avoid any body contact of containers or contents unless wearing appropriate personal protective equipment.
Keep away from incompatible material(s).
Avoid any release into the environment.
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.
Avoid release to the environment.

Additional Information No further relevant information.

US

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 5)

8 Exposure controls/personal protection

Engineering Measures or Controls

Exposure Limit Values that Require Monitoring at the Workplace

1317-65-3 Calcium Carbonate

TEEL	Short-term value: 15.0 mg/m ³ Long-term value: 60.0 mg/m ³ SCAPA, 2008
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84852-15-3 4-Nonylphenol, branched

TEEL-1	Short-term value: 20 mg/m ³
TEEL-2	Short-term value: 125 mg/m ³
TEEL-3	Short-term value: 500 mg/m ³

140-31-8 N-(2-Aminoethyl)piperazine

TEEL-1	Short-term value: 7.5 mg/m ³
TEEL-2	Short-term value: 50.0 mg/m ³
TEEL-3	Short-term value: 500 mg/m ³

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

OSHA PEL	Short-term value: 15 mg/m ³
US ACGIH	Short-term value: 10 mg/m ³

14808-60-7 Quartz

PEL	see Quartz listing
REL	Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m ³ *as respirable fraction

112-24-3 Triethylenetetramine

WEEL	Long-term value: 6 mg/m ³ , 1 ppm Skin
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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.

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.

Suggested respirator type(s):

Full Facepiece APR with high efficiency filters

Self-contained breathing apparatus (SCBA)

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):

(Contd. on page 7)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 6)

Nitrile Gloves
Butyl Rubber Gloves

Eye Protection



Brief or short term use: Tightly sealed goggles



Intensive or long term use: Tightly sealed goggles and Face Shields

Body Protection



Intensive or long term use: Protective Clothing

Where the potential for over-exposure exists, the following protective work clothing is recommended:
Tyvek® 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:	Paste
Color:	Cream
Odor:	Amine-like
Odor Threshold:	Not determined.

PH-Value at 20 °C (68 °F): 10.9

Change in Condition:

Melting Point:	Not determined.
Boiling Point:	>140 °C (>284 °F)
Flash Point:	>99 °C (>210 °F)

Decomposition Temperature: Not determined.

Flammability: Not determined.

Explosion: Not determined.

Explosion Limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor Pressure: 38.7 hPa (29 mm Hg)

Density at 25 °C (77 °F): 1.19 g/cm³ (9.931 lbs/gal)

Solubility in or Miscibility with

Water: Partially miscible.

Viscosity:

Dynamic at 20 °C (68 °F): 700000 mPas

(Contd. on page 8)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 7)

Kinematic: Not determined.

Additional Information No further relevant information.

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 react with strong reducing agents generating flammable hydrogen (H_2).

May ignite on contact with fluorine.

Incompatible Material(s)

Strong reducing agents

Chlorinated hydrocarbons

Copper and copper alloys

Nickel

Cobalt

Sodium hypochlorite, Nitrous acid and other nitrosating agents

Acid chlorides

Acid anhydrides

Oxidizing agents

Isocyanates

Aldehydes

Acids

Hazardous Decomposition Product(s)

Ammonia (NH_3) and/or Amines.

Irritating fumes

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

1317-65-3 Calcium Carbonate

Oral LD50 6450 mg/kg (rat)
Reference: Imerys (M)SDS (2008).

84852-15-3 4-Nonylphenol, branched

Oral LD50 1604 mg/kg (rat)
Reference: Royce SDS (2015)

140-31-8 N-(2-Aminoethyl)piperazine

Oral LD50 2140 mg/kg (rat)
Royce SDS (2015)

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).

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 8)

Potential Health Effect(s):

If swallowed, may cause:

diarrhea

nausea

shock or collapse

See acute inhalative effect(s) for further information

Dermal

1317-65-3 Calcium Carbonate

Dermal	LD50	(-) No data available.
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84852-15-3 4-Nonylphenol, branched

Dermal	LD50	2031 mg/kg (rabbit) Royce SDS (2015)
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140-31-8 N-(2-Aminoethyl)piperazine

Dermal	LD50	866 mg/kg (rabbit) Reference: OECD SIDS (2005).
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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.
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Potential Health Effect(s):

Not a classified acute dermal hazard.

See acute inhalative effect(s) for further information.

Inhalative

1317-65-3 Calcium Carbonate

Inhalative	LC50/4 h	(-) No data available.
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84852-15-3 4-Nonylphenol, branched

Inhalative	LC50/4 h	(mouse) (Non-toxic; LC50 exceeded the saturated vapor value) At 267 mg/m ³ (230 ppm), there was no significant depression. At the saturated vapor concentration of 3636 mg/m ³ (400 ppm) at 70 °C, there was sensory irritation observed which was rapidly gone after removal from exposure. The substance was not classified as an acute inhalative hazard under its regular use. Reference: IUCLID Dataset (2000).
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140-31-8 N-(2-Aminoethyl)piperazine

Inhalative	LC50/4 h	(rat) (No mortality observed at saturated atmosphere) No mortality was observed in rats after a single exposure to the saturated atmosphere for 8 hours. Reference: OECD SIDS (2005).
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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.
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Potential Health Effect(s):

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

burning sensation

Silicosis

sore throat

Tuberculosis

Decreased pulmonary function

cough, headache, nausea, shortness of breath, vomiting, and wheezing

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 9)

Skin Corrosion or Irritation

68410-23-1 Fatty acids, C18 unsatd., dimers, reaction products with polyethylenepolyamines

Corrosion/Irritation (Not applicable) (OECD Test Guideline 431)
Not considered to be corrosive to skin in the in vitro skin model EpiDerm™.
Source: ECHA REACH Dossier GLP Study 2012

1317-65-3 Calcium Carbonate

Corrosion/Irritation moderately (-)
The substance is moderately irritating based on the PH = 9.5 with concentration of 50g/L of water at 20C.

moderately (rabbit) (Draize test)
500 mg/24h, the pure substance shows no irritating effect, however, the impurities or degradation products may lead to irritant effects on the sweating skin due to alkalinity.
Reference: IUCLID dataset of CAS No. 471-34-1 (2000).

84852-15-3 4-Nonylphenol, branched

Corrosion/Irritation corrosive (rabbit) (Directive 84/449/EEC B4; Post-exposure: 8 days)
All tested animals showed signs of erythema, edema, and eschar which were not fully reversible within 8 days.
Reference: IUCLID Dataset (2000).

140-31-8 N-(2-Aminoethyl)piperazine

Corrosion/Irritation corrosive (rabbit) (US DOT Corrosivity Assay)
100 % pure substance (4 hours) - corrosive
10 % substance (9 -11 days) - moderate irritation
10 % substance (abraded skin, 2 days) - deep necrosis
Thus, the substance was classified as corrosive to rabbit skin (Category 1).
Reference: OECD SIDS (2005).

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

1317-65-3 Calcium Carbonate

Damage/Irritation slightly (Human)
The substance is slightly irritating to the eyes.
Reference: IUCLID Dataset of CAS No. 471-34-1 (2000).

not irritating (rabbit)
No toxic effect when applied to surface of rabbit eyes
Reference: ACToR of CAS No. 471-34-1 (2010).

84852-15-3 4-Nonylphenol, branched

Damage/Irritation serious irrit. (rabbit) (Draize Test)
There was corneal opacity in all animals and iritis in two. Meanwhile, all treated animals showed marked conjunctival involvement with transient discharges. Thus, the substance was classified as a serious eye irritant (Category 1).
Reference: IUCLID Dataset (2000).

140-31-8 N-(2-Aminoethyl)piperazine

Damage/Irritation serious damage (rabbit)
Neat substance applied to rabbit eyes caused extensive irritation in the conjunctiva and cornea, which most likely resulted in permanent blindness.
Reference: OECD SIDS (2005).

(Contd. on page 11)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 10)

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
 redness, pain and severe deep burns

Respiratory or Skin Sensitization
1317-65-3 Calcium Carbonate

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

84852-15-3 4-Nonylphenol, branched

Sensitization	Skin	not sensitizing (guinea pig) (Buehler test with OECD TG 406) Guinea pig maximization test - negative There was no significant difference between treated and negative controlled groups; the substance was not classified as a dermal sensitizer. Reference: IUCLID Dataset (2000).
	Respiratory	(No data available)

140-31-8 N-(2-Aminoethyl)piperazine

Sensitization	Skin	sensitizing (guinea pig) (OECD TG 406) 5 out of 20 guinea pigs showed positive responses in the maximization tests. For safety reason, the substance was classified as a skin sensitizer (Category 1). Reference: OECD SIDS (2005).
	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
1317-65-3 Calcium Carbonate

Mutagenicity	negative (-) The pure substance is not listed as a carcinogen by NTP, IARC or OSHA. Reference: Imerys (M)SDS (2008).
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84852-15-3 4-Nonylphenol, branched

(Contd. on page 12)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 11)

Mutagenicity negative (mouse) (In Vivo (Directive 79/831/EEC, B12))
 In Vitro (Ames test; salmonella typhimurium) - negative with and without metabolic activation
 In Vitro (HGPRT assay with OECD TG 476; Chinese Hamster) - negative with and without metabolic activation
 In Vivo (Directive 79/831/EEC, B12; mouse) - no mutagenic effects in mouse erythrocytes were observed during the test sampling time.
 Reference: IUCLID Dataset (2000).

140-31-8 N-(2-Aminoethyl)piperazine

Mutagenicity negative (Human) (In Vitro (Cytogenic Assay with OECD TG 473))
 In Vitro (Salmonella typhimurium; OECD TG 471) - Negative with and without metabolic activation
 negative (mouse) (In Vivo (Micronucleus Assay))
 In Vitro (Mouse; Lymphoma Assay) - Negative with and without metabolic activation.
 In Vitro (Mouse; Gene Mutation Assay) - Positive without metabolic activation (due to high pH)
 In Vitro (Rat; Unscheduled DNA Synthesis with OECD TG 482) - Negative
 In Vitro (Saccharomyces cerevisiae) - Negative with and without metabolic activation.
 When considering all of the evidence, the substance is not classified as a mutagen.
 Reference: OECD SIDS (2005) and IUCLID Dataset (2000).

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

1317-65-3 Calcium Carbonate

Carcinogenicity negative (salmonella typhimurium) (Preincubation)
 In Vitro - Negative with and without metabolic activation.
 Reference: NLM TOXNET of CAS No. 471-34-1 (2010).

84852-15-3 4-Nonylphenol, branched

Carcinogenicity negative (Test species: n/a) (not listed as a Carcinogen by NTP, IARC or OSHA)
 Reference: Hexion (M)SDS (2004).

140-31-8 N-(2-Aminoethyl)piperazine

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

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

1317-65-3 Calcium Carbonate

Reproductive Toxi. (rat)
 Up to 1.25% diet of the substance for 6 weeks prior to mating and during gestation and found no adverse effects.
 Reference: ACToR of CAS No. 471-34-1 (2010).

84852-15-3 4-Nonylphenol, branched

Reproductive Toxi. positive (rat) (NOAEL (oral) = 15 mg/kg/day)
 There were adverse effects on pups observed at the non-maternally toxic doses; the substance was therefore classified as a suspected reproductive hazard by EU.
 Reference: EPA HPVIS (2010) and REACH CLP (2012).

140-31-8 N-(2-Aminoethyl)piperazine

Reproductive Toxi. negative (rat) (OECD TG 422; No reproductive performance observed)
 Route: Oral with up to 416 mg/kg/day (male rats) and 598 mg/kg/day (female rats)
 No reproductive performance in maternal animals or general physical condition in F1 pups was observed at any dose levels. Thus, the substance was not classified as a reproductive hazard.
 Reference: ECHA (2011).

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.

(Contd. on page 13)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 12)

Specific Target Organ Toxicity - Single Exposure

1317-65-3 Calcium Carbonate

STOT-Single

(Human)

Inhalation 0.005 mg/L for 3 hours:
 target organs - systemic toxicity
 May affect nasal function and cause nasal symptoms.

Ingested up to 15g of the substance:

target organs - systemic toxicity

Symptoms included: fatigue, anorexia, nausea and vomiting, an elevated blood pressure, hemoconcentration, leukocytosis, metabolic alkalosis, elevated body weight and hypokalemia.

Reference: ACToR of CAS No. 471-34-1 (2010).

(rat)

Exposed to 0.0812 mg/L for 90 minutes/ after 21 hr. No effect on lung weight, macrophage concentration, or histopathology.

Reference: ACToR of CAS No. 471-34-1 (2010).

84852-15-3 4-Nonylphenol, branched

STOT-Single

(No data available)

140-31-8 N-(2-Aminoethyl)piperazine

STOT-Single

Target: N/A (rat) (conclusive but not sufficient for classification)

NOAEL (oral) < 2097 mg/kg

At necropsy, slightly congested lungs, mottled livers, intestine and adrenal hemorrhaged stomach, and congested internally but pale externally kidneys were observed in victims that were killed at the dose level of 2097 mg/kg. NOAEL was not established. Meanwhile, ECHA concluded it as conclusive but not sufficient for classification.

Reference: ECHA (2011).

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

STOT-Single (dynamic)

(No data available)

Potential Health Effect(s):

No further relevant information; classification is not possible.

Some target organs may be exclusive due to low concentration of the hazardous component(s).

Specific Target Organ Toxicity - Repeated Exposure

1317-65-3 Calcium Carbonate

STOT-Repeated

(Human)

Target organs - Systemic toxicity

Symptoms: Infrequent instances of hypercalcemia with alkalosis, calcinosis, azotemia, renal dysfunction, GI hemorrhage and vomiting or aspiration through nasogastric tube seem to predispose to the disorder.

Reference: ACToR of CAS No. 471-34-1.

84852-15-3 4-Nonylphenol, branched

STOT-Repeated

(rat) (Target: Kidney via Oral routes)

NOAEL (oral, 90 days) = 50 mg/kg/day; there were renal tubular epithelial degeneration and renal tubular dilatation observed from the test animals.

Reference: Huntsman (M)SDS (2009), EPA HPVIS (2010), IUCLID Dataset (2000) and GHS-J (2006).

140-31-8 N-(2-Aminoethyl)piperazine

STOT-Repeated

Target: None (rat) (After repeated dermal or oral administration)

Target organs: None

NOAEL (dermal; 4 weeks; OECD TG 410) = 1000 mg/kg/day (the maximum test dose)

There was no evidence of systemic toxicity observed.

(rat) (Oral; OECD TG 422)

Target organs: None

A test item-related lower mean final body weight was apparent in females of the 8000 ppm/day group (598 mg/kg/day) at the scheduled necropsy. However, the dose level was outside of the guidance value ranges.

Reference: OECD SIDS (2005) and ECHA (2011).

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

STOT-Repeated

(No data available)

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

(Contd. on page 14)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 13)

Aspiration Hazard

1317-65-3 Calcium Carbonate

Aspiration Hazard (-)
No data available.

84852-15-3 4-Nonylphenol, branched

Aspiration Hazard (No data available)

140-31-8 N-(2-Aminoethyl)piperazine

Aspiration Hazard (No data available)

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

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

1317-65-3 Calcium Carbonate

Algae Toxicity (static) 56000 mg/l (*Gambusia affinis* (western mosquitofish)) (LC50 (24 - 96 hrs))
Reference: ACToR of CAS No. 471-34-1 (2010).

(*Poecilia latipinna* (Sailfin molly))
Exposure period: 96 hrs.
NOEC > 200 mg/L
Reference: IUCLID Dataset of CAS No. 471-34-1 (2000).

Crustacean Toxicity (-)
The substance is not toxic to aquatic organisms.
Reference: Canada DSL of CAS No. 471-34-1 (2007).

Fish Toxicity (-)
The substance is not toxic to aquatic organisms.
Reference: Canada DSL of CAS No. 471-34-1 (2007).

Micro-organism toxicity (-)
The substance is not toxic to aquatic organisms.
Reference: Canada DSL of CAS No. 471-34-1 (2007).

84852-15-3 4-Nonylphenol, branched

Algae Toxicity 0.27 mg/l (*Skeletonema costatum*) (EC50 (96 hrs))
(*Pseudokirchneriella subcapitata*)
EC50 (96 hrs) = 0.41 mg/L
(*Scenedesmus subspicatus*)
EC50 (72 hrs; Algenwachstums-Hemmtest nach UBA) = 1.3 mg/L

Crustacean Toxicity 0.15 mg/l (*Hyalella azteca*) (EC50 (96 hrs))
(*Daphnia magna* (water flea))
EC50 (48 hrs) = 0.035 mg/L Royce SDS (2015)
NOEC (21 days) = 0.024 mg/L
(*Mysidopsis bahia*)
EC50 (96 hrs) = 0.043 mg/L
NOEC (28 days) = 3.9 µg/L

Fish Toxicity 0.14 mg/l (*Pimephales promelas* (fathead minnow))
Royce SDS (2015)

(Contd. on page 15)

US

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 14)

140-31-8 N-(2-Aminoethyl)piperazine

Algae Toxicity	495 mg/l (Green Algae) (EC50 (72 hrs); OECD TG 201) Royce SDS (2015)
Crustacean Toxicity	32 mg/l (Daphnia magna (water flea)) (EC50 (48 hrs); OECD TG 202) Based on the non-rapid degradability and the acute EC50 < 100 mg/L, the substance is classified as a Chronic-3 environmental hazard. Royce SDS (2015)
Fish Toxicity	368 mg/l (Leuciscus idus (Ide or Orfe)) (LC50 (96 hrs)) 560 mg/l (Pimephales promelas (fathead minnow)) (LC50 (96 hrs); OECD TG 203) Reference: OECD SIDS (2005) and ECHA (2011).

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

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

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

Degradability and Stability

1317-65-3 Calcium Carbonate

Biodegradation	(-) The test is not applicable since this substance is inorganic and not soluble in water. Reference: IUCLID Dataset of CAS No. 471-34-1 (2000).
Photodegradation	positive cm ² /molecule-sec (-) The substance is persistent. Reference: ACToR of CAS No. 471-34-1 (2010).
Stability in water	(-) No data available.

84852-15-3 4-Nonylphenol, branched

Biodegradation	non-biodegrad. (Test species: n/a) (Read-across from 25154-52-3; OECD TG 301C) Biodegradation (Conc.: 100 ppm; 2 weeks; Direct analysis from GC, UV-vis, HPLC) = 8.9, 5.3, 2.5% Biodegradation (Conc.: 100 ppm; 2 weeks; Indirect analysis from BOD) = 0% The substance is non-biodegradable. Reference: NITE CHRIP (2010).
Persistence	(Test species: n/a) (The substance is not persistent) Reference: Canada DSL (2007).
Photodegradation	9.99E-11 cm ² /molecule-sec (OH radical) (Half-life (5.0E5 OH/cm ³) = 0.3 day) Reference: IUCLID Dataset (2000).
Stability in water	(No data available)

140-31-8 N-(2-Aminoethyl)piperazine

Biodegradation	non-biodegrad. (Test species: n/a) (Biodegradation (OECD TG 301C) < 5%) Biodegradation (Conc.: 100 mg/L; 4 weeks; Indirect analysis from BOD) < 1% Biodegradation (Conc.: 100 mg/L; 4 weeks; Direct analysis from TOC and GC) ≤ 5% This substance is non-biodegradable. Reference: NITE CHRIP (2011).
Persistence	(Test species: n/a) (The substance is persistent) Reference: NITE CHRIP (2011).
Photodegradation	2.14E-14 cm ² /molecule-sec (OH radical) (Half-life (1.5E6 OH/cm ³) = 0.6 hours) However, photolysis effect can be seen as negligible based on the partition of the substance to air is less than 1%. Reference: OECD SIDS (2005).
Stability in water	stable (Test species: n/a) Hydrolysis is not expected under environmental conditions (pH from 5 to 9). Reference: IUCLID Dataset (2000).

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

Biodegradation	(No data available)
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(Contd. on page 16)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 15)

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

1317-65-3 Calcium Carbonate

BCF	(-) No data available.
Environment fate	(-) No data available.
Koc	(-) No data available.
LogPow	(-) No data available.

84852-15-3 4-Nonylphenol, branched

BCF	90-330 (Cyprinus carpio) (The substance is not bioaccumulative) BCF = 250 - 330 (8 weeks; Concentration: 0.1 ppm) BCF = 90 - 220 (8 weeks; Concentration: 0.01 ppm) (Pimephales promelas (fathead minnow)) BCF (20 days, chemical concentration = 21 µg/L) = 271 Reference: NITE CHRIP (2010) and IUCLID Dataset (2000).
Koc	2580 - 25200 L/kg (Test species: n/a) Calculated from Log Koc = 0.989 LogPow - 0.346 and LogPow of 3.8 - 4.8. Reference: IUCLID Dataset (2000).
LogPow	3.8 - 4.8 (Test species: n/a) Reference: IUCLID Dataset (2000).

140-31-8 N-(2-Aminoethyl)piperazine

BCF	(Test species: n/a) (The substance is not bioaccumulative) Reference: Canada DSL (2007).
Koc	37000 L/kg (Test species: n/a) (Batch equilibrium method) The substance is expected to have high affinity for adsorption to soil and sediments via a cation exchange mechanism. The substance would partition primarily to water (71.4%) and to a lesser extent soil (28.6%) based on Level 3 Fugacity Modeling. Reference: ECHA (2011).
LogPow	-1.48 (Test species: n/a) (Shake-flask method) Reference: ECHA (2011) and OECD SIDS (2005).

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

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

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

Additional Information No further relevant information.

13 Disposal considerations

Hazardous Waste List

Description:

The product has not been evaluated for its hazards when disposed as a waste by RCRA.
However, it is necessary to contain and dispose of the product as a hazardous waste based on the Hazard Identification in Section 2.

(Contd. on page 17)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 16)

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

Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, N-Aminoethylpiperazine)

DOT, ADR, IMDG, IATA

Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, N-Aminoethylpiperazine)

Transport hazard class(es)
DOT

Class
Label

8 Corrosive substances
8

ADR

Class
Label

8 (C7) Corrosive substances
8

IMDG, IATA

Class
Label

8 Corrosive substances
8

Packing group
DOT, ADR

III

IMDG, IATA

III

Environmental Hazards:
Special Marking (ADR):

Symbol (fish and tree)

Special Precautions:

Warning: Corrosive substances

Danger Code (Kemler):

88

EMS Number:

F-A, S-B

(Contd. on page 18)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 17)

Segregation Groups

Alkalis

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

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)

0

Excepted quantities (EQ)

Code: E0
Not permitted as Excepted Quantity

UN "Model Regulation":

UN3267, Corrosive liquid, basic, organic, n.o.s. (4-Nonylphenol, branched, N-aminoethylpiperazine), ENVIRONMENTALLY HAZARDOUS, 8, III

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)

1317-65-3	Calcium Carbonate	A, C	30-40%
84852-15-3	4-Nonylphenol, branched	A	10-20%
140-31-8	N-(2-Aminoethyl)piperazine	A, C	5-<10%
112-24-3	Triethylenetetramine	A	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)

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched
140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

Proposition 65

Chemicals Known to Cause Cancer

14808-60-7	Quartz
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(Contd. on page 19)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 18)

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)

14808-60-7 Quartz

1

NTP (National Toxicology Program)

14808-60-7 Quartz

K

TLV (Threshold Limit Value Established by ACGIH)

14808-60-7 Quartz

A2

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

14808-60-7 Quartz

International Regulation Lists
Canadian Domestic Substance Listings:

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched
140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

Canadian Ingredient Disclosure list (limit 1%)

140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica

Chinese Chemical Inventory of Existing Chemical Substances:

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched
140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

Japanese Existing and New Chemical Substance List:

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched
140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

Korean Existing Chemical Inventory:

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched

(Contd. on page 20)

Safety Data Sheet

acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 19)

140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

European Pre-registered substances:

1317-65-3	Calcium Carbonate
84852-15-3	4-Nonylphenol, branched
140-31-8	N-(2-Aminoethyl)piperazine
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica
14808-60-7	Quartz
112-24-3	Triethylenetetramine

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

84852-15-3	4-Nonylphenol, branched	10-20%
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Restriction of Hazardous Substances Directive (RoHS) list:

None of the ingredients is listed.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department Issuing (M)SDS: Product Safety Department

Contact: msds@resinlab.com

Abbreviations and acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
 ACToR: US EPA Aggregated Computational Toxicology Resource
 ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road
 BCF: Bioconcentration Factor
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 CCRIS: US NLM TOXNET Chemical Carcinogenesis Research Information System
 CHRIP: Japan NITE Information on Biodegradation and Bioconcentration of the Existing Chemical Substances in the Chemical Risk Information Platform
 DOT: US Department of Transportation
 DSL: Canada Domestic Substance List
 ECHA: European Chemicals Agency's Dissemination portal with information on chemical substances registered under REACH
 ESIS: European Chemical Substances Information System
 HMIS: US National Paint & Coatings Association (NPCA) Hazardous Materials Identification System
 HPVIS: US EPA High Production Volume Information 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)
 IUCLID: EU RECh International Uniform Chemical Information Database
 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
 NLM TOXNET: US National Library of Medicine Toxicology Data Network
 OECD: Organisation for Economic Co-operation and Development
 OSHA: US Occupational Safety and Health Administration
 P: Marine Pollutant

(Contd. on page 21)

US

Safety Data Sheet acc. to OSHA HCS

Print Date 04/14/2015

Revision Date 04/14/2015

Trade Name: EP11HTFS Gray B

(Contd. of page 20)

RCRA: Resource Conservation and Recovery Act (USA)

REACH: EU Registry, Evaluation and Authorisation of Chemicals

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

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

RTECS: US Registry of Toxic Effects of Chemical Substances

SARA: US Superfund Amendments and Reauthorization Act

SIDS: OECD existing chemicals Screening Information Data Sets

SVHC: EU ECHA Substance of Very High Concern

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

TOXLINE: US NLM bibliographic database search system

TSCA: US Toxic Substance Control Act

Date of preparation / last revision 04/14/2015 / 3

US