

**HARDENER HW 5541 US**

Version 3.0      Revision Date: 07/21/2023      SDS Number: 400001012615      Date of last issue: 04/22/2021  
Date of first issue: 08/02/2017

Print Date 10/24/2023

**SECTION 1. IDENTIFICATION**

Product name : HARDENER HW 5541 US

**Manufacturer or supplier's details**

Company name of supplier : Huntsman Advanced Materials Americas LLC  
Address : P.O. Box 4980  
The Woodlands,  
TX 77387  
United States of America (USA)

Telephone : Non-Emergency: (800) 257-5547

E-mail address : Global\_Product\_EHS\_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

**Recommended use of the chemical and restrictions on use**

Recommended use : Hardener

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Skin irritation : Category 2

Serious eye damage : Category 1

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 2

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H361 Suspected of damaging fertility or the unborn child.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.



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Precautionary statements : **Prevention:**  
 P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P264 Wash skin thoroughly after handling.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
**Response:**  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P305 + P351 + P338 + P310 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.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P391 Collect spillage.  
**Storage:**  
 P405 Store locked up.  
**Disposal:**  
 P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration (% w/w)
limestone	1317-65-3	20 - 30
2-ethylhexane-1,3-diol	94-96-2	5 - 10
Terphenyl, hydrogenated	61788-32-7	1 - 5
cyclohex-1,2-ylenediamine	694-83-7	1 - 5
terphenyl	26140-60-3	0.1 - 1
phenylmercury acetate	62-38-4	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

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**SECTION 4. FIRST AID MEASURES**

- General advice                            : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.  
Treat symptomatically.  
Get medical attention if symptoms occur.
- If inhaled                                    : Call a physician or poison control centre immediately.  
If inhaled, remove to fresh air.  
Get medical attention if symptoms occur.
- In case of skin contact                    : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact                    : Small amounts splashed into eyes can cause irreversible  
tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty  
of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed                                : Induce vomiting immediately and call a physician.  
Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms                : None known.  
and effects, both acute and  
delayed
- Protection of first-aiders                : First Aid responders should pay attention to self-protection  
and use the recommended protective clothing  
If potential for exposure exists refer to Section 8 for specific  
personal protective equipment.  
Avoid inhalation, ingestion and contact with skin and eyes.  
No action shall be taken involving any personal risk or without  
suitable training.  
It may be dangerous to the person providing aid to give  
mouth-to-mouth resuscitation.
- Notes to physician                        : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media            : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO2)

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Dry chemical

- Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons.  
Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.  
Do not breathe vapours/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the

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application area.

To avoid spills during handling keep bottle on a metal tray.  
 Dispose of rinse water in accordance with local and national regulations.

- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Observe label precautions.  
 Keep in properly labelled containers.
- Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.
- Recommended storage temperature : 36 - 104 °F / 2 - 40 °C
- Further information on storage stability : Stable under normal conditions.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
limestone	1317-65-3	TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
		TWA (Respirable)	5 mg/m <sup>3</sup> (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m <sup>3</sup> (Calcium carbonate)	NIOSH REL
		TWA (Total dust)	15 mg/m <sup>3</sup>	OSHA P0
		TWA (respirable dust fraction)	5 mg/m <sup>3</sup>	OSHA P0
Terphenyl, hydrogenated	61788-32-7	TWA	0.5 ppm	ACGIH
		TWA	0.5 ppm 5 mg/m <sup>3</sup>	NIOSH REL
		TWA	0.5 ppm 5 mg/m <sup>3</sup>	OSHA P0
terphenyl	26140-60-3	C	1 ppm 9 mg/m <sup>3</sup>	OSHA Z-1
		C	5 mg/m <sup>3</sup>	ACGIH
		C	0.5 ppm	OSHA P0

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phenylmercury acetate	62-38-4	TWA	5 mg/m <sup>3</sup> 0.1 mg/m <sup>3</sup> (Mercury)	ACGIH
		TWA (Vapour)	0.05 mg/m <sup>3</sup> (Mercury)	NIOSH REL
		C	0.1 mg/m <sup>3</sup> (Mercury)	NIOSH REL
		C	0.1 mg/m <sup>3</sup> (Mercury)	OSHA P0

**Engineering measures** : Maintain air concentrations below occupational exposure standards.

**Personal protective equipment**

**Respiratory protection** : **W A R N I N G !** This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure when mechanically processing cured material (e.g. grinding, sanding, sawing).

**Hand protection**

**Material** : butyl-rubber  
**Break through time** : > 8 h

**Material** : Nitrile rubber  
**Break through time** : 10 - 480 min

**Material** : Ethyl Vinyl Alcohol Laminate (EVAL)  
**Break through time** : > 8 h

**Remarks** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.  
 The suitability for a specific workplace should be discussed with the producers of the protective gloves.  
 Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.  
 Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

**Eye protection** : Eye wash bottle with pure water  
 Tightly fitting safety goggles  
 Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection** : Impervious clothing  
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures** : When using do not eat or drink.

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When using do not smoke.  
Wash hands before breaks and at the end of workday.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Colour : red

Odour : No data is available on the product itself.

Odour Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Melting point/freezing point : No data is available on the product itself.

Boiling point : No data is available on the product itself.

Flash point : 205 °F / 96 °C  
Method: closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

Upper explosion limit / Upper flammability limit : No data is available on the product itself.

Lower explosion limit / Lower flammability limit : No data is available on the product itself.

Vapour pressure : No data is available on the product itself.

Relative vapour density : No data is available on the product itself.

Relative density : 1.3 - 1.4

Density : No data is available on the product itself.

Solubility(ies)

    Water solubility : No data is available on the product itself.

    Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : No data is available on the product itself.

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Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity : No data is available on the product itself.

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.

Conditions to avoid : None known.

Incompatible materials : None known.

Hazardous decomposition products : carbon dioxide

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method

**Components:****limestone:**

Acute oral toxicity : LD50 (Rat): 6,450 mg/kg

**2-ethylhexane-1,3-diol:**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 3.8 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute



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inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): 8,960 - 10,521 mg/kg

**Terphenyl, hydrogenated:**Acute oral toxicity : LD50 (Rat, male and female): > 10,000 mg/kg  
Method: OECD Test Guideline 401Acute inhalation toxicity : LC50 (Rat, male and female): > 4.7 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yes  
Assessment: The substance or mixture has no acute inhalation toxicityAcute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: no  
Assessment: The substance or mixture has no acute dermal toxicity**cyclohex-1,2-ylenediamine:**Acute oral toxicity : LD50 (Rat, male and female): 1,170 mg/kg  
Method: OECD Test Guideline 401  
GLP: no  
Assessment: The component/mixture is moderately toxic after single ingestion.Acute dermal toxicity : LD50 (Rat, male and female): 1,870 mg/kg  
Method: OECD Test Guideline 402  
GLP: no  
Assessment: The component/mixture is moderately toxic after single contact with skin.**terphenyl:**Acute oral toxicity : LD50 (Rat, male and female): 2,604 mg/kg  
Method: OECD Test Guideline 401  
GLP: yesAcute inhalation toxicity : LC50 (Rat, male and female): > 3.8 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
GLP: yesAcute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes**phenylmercury acetate:**Acute oral toxicity : LD50 Oral (Rat): 41 mg/kg  
Assessment: The component/mixture is highly toxic after

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single ingestion.

**Skin corrosion/irritation****Components:****2-ethylhexane-1,3-diol:**

Species : Rabbit  
Assessment : No skin irritation  
Result : Normally reversible injuries

**Terphenyl, hydrogenated:**

Species : Rabbit  
Exposure time : 24 h  
Method : Other guidelines  
Result : No skin irritation

**cyclohex-1,2-ylenediamine:**

Species : Rabbit  
Assessment : Causes severe burns.  
Method : OECD Test Guideline 404  
Result : Corrosive after 3 minutes or less of exposure  
GLP : no

**terphenyl:**

Species : Rabbit  
Assessment : No skin irritation  
Method : OECD Test Guideline 404  
Result : No skin irritation  
GLP : yes

**phenylmercury acetate:**

Species : Human  
Result : Causes burns.

**Serious eye damage/eye irritation****Components:****limestone:**

Species : Rabbit  
Result : Mechanical irritation of the eyes is possible.  
Assessment : No eye irritation

**2-ethylhexane-1,3-diol:**

Species : Rabbit  
Result : Risk of serious damage to eyes.

**Terphenyl, hydrogenated:**

Species : Rabbit  
Result : No eye irritation  
Method : Draize Test

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GLP : no

**cyclohex-1,2-ylenediamine:**

Species : Rabbit  
Result : Risk of serious damage to eyes.  
Assessment : Risk of serious damage to eyes.  
GLP : no

**terphenyl:**

Species : Rabbit  
Result : No eye irritation  
Assessment : No eye irritation  
Method : OECD Test Guideline 405  
GLP : yes

**phenylmercury acetate:**

Species : Rabbit  
Result : Corrosive

**Respiratory or skin sensitisation****Components:****limestone:**

Exposure routes : Skin  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

**Terphenyl, hydrogenated:**

Exposure routes : Skin  
Species : Humans  
Method : Patch Test 24 Hrs.  
Result : Does not cause skin sensitisation.

Assessment : Does not cause skin sensitisation.

**Germ cell mutagenicity****Components:****Terphenyl, hydrogenated:**

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 482  
Result: negative

Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative

Metabolic activation: with and without metabolic activation  
Method: In vitro mammalian cell gene mutation test  
Result: negative

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Genotoxicity in vivo : Species: Rat  
Cell type: Bone marrow  
Dose: 250, 1250, 2500 mg/kg bw  
Method: OECD Test Guideline 475  
Result: negative

**cyclohex-1,2-ylenediamine:**

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro  
Test system: Human lymphocytes  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Test Type: reverse mutation assay  
Test system: Salmonella typhimurium and E. coli  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: positive  
GLP: yes

Test Type: gene mutation test  
Test system: mouse lymphoma cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 490  
Result: negative  
GLP: yes

**terphenyl:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Test system: Salmonella typhimurium  
Metabolic activation: Metabolic activation  
Method: OECD Test Guideline 471  
Result: positive  
GLP: yes

Test Type: gene mutation test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
GLP: yes

Test Type: Chromosome aberration test in vitro  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
GLP: yes

Genotoxicity in vivo : Test Type: in vivo assay  
Species: Rat (male and female)  
Cell type: Bone marrow  
Application Route: Intraperitoneal injection

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Exposure time: 6-24 h  
 Dose: 0, 500, 2500, 5000 mg/kg bw  
 Method: OECD Test Guideline 475  
 Result: negative  
 GLP: yes

**Carcinogenicity**

**IARC** Group 2B: Possibly carcinogenic to humans  
 phenylmercury acetate 62-38-4  
 (methylmercury compounds)

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity****Components:****2-ethylhexane-1,3-diol:**

Effects on foetal development : Species: Rat, female  
 Application Route: Oral  
 General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight  
 Result: No teratogenic effects

Species: Rat, female  
 Application Route: Dermal  
 General Toxicity Maternal: NOAEL: 1,884 mg/kg body weight  
 Result: Teratogenic effects

**Terphenyl, hydrogenated:**

Effects on fertility : Test Type: Two-generation study  
 Species: Rat, male and female  
 Application Route: Oral  
 Frequency of Treatment: 7 days/week  
 General Toxicity - Parent: NOAEL: 1,000 ppm  
 General Toxicity F1: NOAEL: 1,000 ppm  
 Method: OECD Test Guideline 416  
 Result: Animal testing did not show any effects on fertility.  
 GLP: yes

Effects on foetal development : Species: Rat, female  
 Application Route: Oral  
 Dose: 125, 500, 1500 mg/kg bw/d  
 Frequency of Treatment: 1 daily  
 General Toxicity Maternal: NOAEL: 125 mg/kg body weight  
 Embryo-foetal toxicity: NOAEL: 500 mg/kg body weight  
 Method: OECD Test Guideline 414  
 GLP: yes

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

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**cyclohex-1,2-ylenediamine:**

Effects on foetal development : Test Type: Pre-natal  
Species: Rat, females  
Application Route: Oral  
Dose: 0/50/150/500 mg/kg bw/d  
Duration of Single Treatment: 15 d  
Frequency of Treatment: 7 days/week  
General Toxicity Maternal: NOAEL: 150 mg/kg body weight  
Developmental Toxicity: NOAEL: 150 mg/kg body weight  
Method: OECD Test Guideline 414  
Result: No teratogenic effects  
GLP: yes  
Remarks: Information given is based on data obtained from similar substances.

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments., Suspected of damaging fertility or the unborn child.

**STOT - single exposure****Components:****cyclohex-1,2-ylenediamine:**

Exposure routes : Inhalation  
Target Organs : Upper respiratory tract  
Assessment : May cause respiratory irritation.

**STOT - repeated exposure****Components:****phenylmercury acetate:**

Assessment : Causes damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:****2-ethylhexane-1,3-diol:**

Species : Rat, male and female  
LOAEL : 100 mg/kg  
Application Route : Ingestion  
Exposure time : 696 h  
Number of exposures : 5 d  
Method : Subacute toxicity

Species : Rat  
NOAEL : 480 mg/kg  
Application Route : Ingestion  
Exposure time : 2,160 h  
Method : Subchronic toxicity

Species : Rat, male and female  
NOAEL : 3768 mg/kg

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Application Route : Skin contact  
 Exposure time : 13 Weeks  
 Number of exposures : 5 d  
 Method : Subchronic toxicity

**Terphenyl, hydrogenated:**

Species : Rat, male and female  
 NOAEL : 12 mg/kg  
 LOAEL : 120 mg/kg  
 Application Route : oral (feed)  
 Exposure time : 14 weeks  
 Number of exposures : 7 days/week  
 Method : OECD Test Guideline 408

Species : Rat, male and female  
 NOAEL : 0.1 mg/l  
 LOAEL : 0.5 mg/l  
 Application Route : Inhalation  
 Exposure time : 90 days  
 Number of exposures : 6 hours/day, 5 days/week (67 n)  
 Dose : 0, 10, 100, 500 mg/m<sup>3</sup>  
 Method : OECD Test Guideline 413

Species : Rabbit, male and female  
 NOAEL : 2,000 mg/kg  
 Application Route : Dermal  
 Exposure time : 21 days  
 Number of exposures : 6 hours/day, 5 days/week  
 Dose : 125, 500, 2000 mg/kg bw/d  
 Method : Subacute toxicity  
 Target Organs : Skin

Repeated dose toxicity - Assessment : No adverse effect has been observed in chronic toxicity tests.

**cyclohex-1,2-ylenediamine:**

Species : Rat, male and female  
 NOAEL : 150 mg/kg  
 Application Route : Oral  
 Exposure time : 90 d  
 Number of exposures : 7 days/week  
 Dose : 0/50/150/500 mg/kg bw/d  
 Method : OECD Test Guideline 408  
 GLP : yes

Species : Rat, male  
 NOAEL : 50 mg/kg  
 Application Route : Oral  
 Exposure time : 90 d  
 Number of exposures : 7 days/week  
 Dose : 0/50/150/500 mg/kg bw/d  
 Method : OECD Test Guideline 408  
 GLP : yes

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**Aspiration toxicity**

No data available

**Experience with human exposure**

No data available

**Toxicology, Metabolism, Distribution**

No data available

**Neurological effects**

No data available

**Further information**

No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****limestone:**

Toxicity to fish : LC50 : > 56,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 350 mg/l  
aquatic invertebrates : Exposure time: 125 d  
(Chronic toxicity) : Test Type: semi-static test  
Test substance: Fresh water

**2-ethylhexane-1,3-diol:**

Toxicity to fish : LC50 (Ictalurus punctatus (channel catfish)): 624 mg/l  
Exposure time: 96 h  
Test Type: static test

Toxicity to daphnia and other : LC50 (Daphnia magna (Water flea)): > 100 mg/l  
aquatic invertebrates : Exposure time: 48 h  
Test Type: static test  
Method: OECD Test Guideline 202  
GLP: yes

Toxicity to algae/aquatic : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l  
plants : Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201  
GLP: yes

**Terphenyl, hydrogenated:**

Toxicity to fish : LC50 : > 100 mg/l  
Exposure time: 96 h



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Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 56 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): < 1 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

Toxicity to microorganisms : NOEC (activated sludge): 103 mg/l  
Exposure time: 3 h  
Test Type: static test  
Method: OECD Test Guideline 209  
GLP: yes

**Ecotoxicology Assessment**

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

**cyclohex-1,2-ylenediamine:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,825 mg/l  
End point: mortality  
Exposure time: 96 h  
Test Type: static test  
Test substance: Fresh water  
Method: OECD Test Guideline 203  
GLP: no  
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 76 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: yes

EC10 (Pseudokirchneriella subcapitata (green algae)): 35 mg/l  
Exposure time: 72 h  
Test Type: static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 201  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 13 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Analytical monitoring: yes  
Test substance: Fresh water  
Method: OECD Test Guideline 211

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GLP: yes

Toxicity to microorganisms : EC50 (*Pseudomonas putida*): 291 mg/l  
 Exposure time: 20 h  
 Test Type: static test  
 Analytical monitoring: no  
 Test substance: Fresh water  
 GLP: no  
 Remarks: Information given is based on data obtained from similar substances.

**terphenyl:**

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 27 mg/l  
 End point: mortality  
 Exposure time: 96 h  
 Test Type: static test  
 Test substance: Fresh water  
 GLP: yes

NOEC (*Oncorhynchus mykiss* (rainbow trout)): 10 mg/l  
 End point: mortality  
 Exposure time: 96 h  
 Test Type: static test  
 Test substance: Fresh water  
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 0.022 mg/l  
 End point: Immobilization  
 Exposure time: 48 h  
 Test Type: static test  
 Test substance: Fresh water  
 Method: OECD Test Guideline 202  
 GLP: yes

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : (*Pimephales promelas* (fathead minnow)): 0.049 mg/l  
 End point: mortality  
 Exposure time: 34 d  
 Test Type: flow-through test  
 Test substance: Fresh water  
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (*Daphnia magna* (Water flea)): 0.005 mg/L  
 Exposure time: 21 d  
 Test Type: flow-through test  
 Analytical monitoring: yes  
 Test substance: Fresh water  
 GLP: yes

M-Factor (Chronic aquatic toxicity) : 10

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**Ecotoxicology Assessment**

Acute aquatic toxicity : Very toxic to aquatic life.  
 Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**phenylmercury acetate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.009 mg/l  
 Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50: 0.006 mg/l  
 Exposure time: 24 h

M-Factor (Acute aquatic toxicity) : 100

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0019 - 0.0032 mg/l  
 Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 10

**Persistence and degradability****Components:****2-ethylhexane-1,3-diol:**

Biodegradability : aerobic  
 Inoculum: Mixture  
 Concentration: 31.2 mg/l  
 Result: Readily biodegradable.  
 Biodegradation: 93 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301E  
 GLP: yes

**cyclohex-1,2-ylenediamine:**

Biodegradability : aerobic  
 Inoculum: Sewage (STP effluent)  
 Concentration: 1.13 mg/l  
 Result: Readily biodegradable.  
 Biodegradation: 100 %  
 Exposure time: 28 d  
 Method: OECD Test Guideline 301D  
 Test substance: Fresh water  
 GLP: yes

Stability in water : Method: No information available.  
 GLP: No information available.  
 Remarks: see user defined free text

Photodegradation : Rate constant: < .001  
 GLP: no

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**terphenyl:**

Biodegradability : Result: Not biodegradable

**Bioaccumulative potential****Components:****limestone:**

Partition coefficient: n-octanol/water : log Pow: &lt; 1

**Terphenyl, hydrogenated:**

Partition coefficient: n-octanol/water : log Pow: 6.5

**cyclohex-1,2-ylenediamine:**Partition coefficient: n-octanol/water : log Pow: < -0.9 (68 °F / 20 °C)  
pH: 7  
Method: OECD Test Guideline 107  
GLP: yeslog Pow: < -0.02 (68 °F / 20 °C)  
pH: 12  
Method: OECD Test Guideline 107  
GLP: yes**phenylmercury acetate:**

Bioaccumulation : Bioconcentration factor (BCF): 100

**Mobility in soil**

No data available

**Other adverse effects****Product:**Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82  
Protection of Stratospheric Ozone - CAA Section 602 Class I  
Substances  
Remarks: This product neither contains, nor was  
manufactured with a Class I or Class II ODS as defined by the  
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +  
B).Additional ecological information : An environmental hazard cannot be excluded in the event of  
unprofessional handling or disposal.  
Very toxic to aquatic life.  
Very toxic to aquatic life with long lasting effects.  
Toxic to aquatic life with long lasting effects.

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**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

- Waste from residues : Dispose of contents and container in accordance with all local, regional, national and international regulations.  
Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.
- Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

- UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Terphenyl, phenyl mercuric acetate)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Environmentally hazardous : yes

**IMDG-Code**

- UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(Terphenyl, phenyl mercuric acetate)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

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

Not applicable for product as supplied.

**National Regulations****49 CFR**

- UN/ID/NA number : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Terphenyl, phenyl mercuric acetate)  
Class : 9  
Packing group : III  
Labels : CLASS 9  
ERG Code : 171  
Marine pollutant : yes  
Remarks : Shipment by ground under DOT is non-regulated; however it

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may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

**Special precautions for user**

Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO. 49CFR: no dangerous good in non-bulk packaging

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

**SECTION 15. REGULATORY INFORMATION****CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
phenylmercury acetate	62-38-4	100	33333

**SARA 311/312 Hazards** : Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Reproductive toxicity

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The following chemical(s),  $\geq 0.1\%$ , are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

phenylmercury acetate    62-38-4

**California Prop. 65**

WARNING: This product can expose you to chemicals including phenylmercury acetate, 4-vinylcyclohexene, buta-1,3-diene, which is/are known to the State of California to cause cancer, and

phenylmercury acetate, 4-vinylcyclohexene, toluene, buta-1,3-diene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**The components of this product are reported in the following inventories:**

DSL : All components of this product are on the Canadian DSL  
 AIIC : Not in compliance with the inventory  
 NZIoC : Not in compliance with the inventory  
 NZIoC : Not in compliance with the inventory  
 ENCS : Not in compliance with the inventory

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KECI : Not in compliance with the inventory  
 PICCS : Not in compliance with the inventory  
 IECSC : On the inventory, or in compliance with the inventory  
 TCSI : Not in compliance with the inventory  
 TSCA : All substances listed as active on the TSCA inventory

**Inventories**

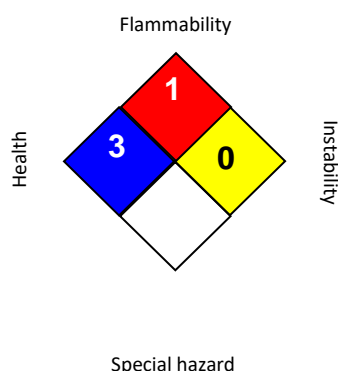
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

**TSCA - 5(a) Significant New Use Rule List of Chemicals**

No substances are subject to a Significant New Use Rule.

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

No substances are subject to TSCA 12(b) export notification requirements.

**SECTION 16. OTHER INFORMATION****Further information****NFPA 704:****HMIS® IV:**

<b>HEALTH</b>	*	<b>3</b>
<b>FLAMMABILITY</b>		<b>1</b>
<b>PHYSICAL HAZARD</b>		<b>0</b>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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 ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
 NIOSH REL : USA. NIOSH Recommended Exposure Limits  
 OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)  
 OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants  
 ACGIH / TWA : 8-hour, time-weighted average

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ACGIH / C	:	Ceiling limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / C	:	Ceiling value not be exceeded at any time.
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / C	:	Ceiling limit
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-1 / C	:	Ceiling

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THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

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