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SAFETY DATA SHEET

HUNTSMAN
Enriching lives through innovation

HARDENER HW 5542 US

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SECTION 1. IDENTIFICATION

Product name : HARDENER HW 5542 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)
1,1'-phenyliminodipropan-2-ol	3077-13-2	5 - 10
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
phenylmercury acetate	62-38-4	0.1 - 1
terphenyl	26140-60-3	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 and effects, both acute and delayed	:	None known.
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	:	No hazardous combustion products are known
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
Terphenyl, hydrogenated	61788-32-7	TWA	0.5 ppm	ACGIH
		TWA	0.5 ppm 5 mg/m3	NIOSH REL
		TWA	0.5 ppm 5 mg/m3	OSHA P0
phenylmercury acetate	62-38-4	TWA	0.1 mg/m3 (Mercury)	ACGIH
		TWA (Vapour)	0.05 mg/m3 (Mercury)	NIOSH REL
		C	0.1 mg/m3 (Mercury)	NIOSH REL
		C	0.1 mg/m3 (Mercury)	OSHA P0
terphenyl	26140-60-3	C	1 ppm 9 mg/m3	OSHA Z-1
		C	5 mg/m3	ACGIH
		C	0.5 ppm 5 mg/m3	OSHA P0

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

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mechanically processing cured material (e.g. grinding, sanding, sawing).

Hand protection

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.
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. 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	:	mild
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: Pensky-Martens closed cup, 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	:	No data is available on the product itself.

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flammability limit

Vapour pressure	:	4.9321 hPa (203 °F / 95 °C)
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	:	slightly soluble
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.
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	:	No decomposition if stored and applied as directed.

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: 4,305 mg/kg
Method: Calculation method

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

Components:

1,1'-phenyliminodipropan-2-ol:

Acute oral toxicity : LD50 (Rat): 3,800 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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 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 401

Acute 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 toxicity

Acute 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

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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.

phenylmercury acetate:

Acute oral toxicity : LD50 Oral (Rat): 41 mg/kg
Assessment: The component/mixture is highly toxic after single ingestion.

terphenyl:

Acute oral toxicity : LD50 (Rat, male and female): 2,604 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute 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: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Components:

1,1'-phenyliminodipropan-2-ol:

Result : Mild skin irritation

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:

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

phenylmercury acetate:

Species	:	Human
Result	:	Causes burns.

terphenyl:

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

Serious eye damage/eye irritation

Components:

1,1'-phenyliminodipropan-2-ol:

Result	:	Risk of serious damage to eyes.

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
GLP	:	no

cyclohex-1,2-ylenediamine:

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

phenylmercury acetate:

Species	:	Rabbit
Result	:	Corrosive

terphenyl:

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

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Respiratory or skin sensitisation

Components:

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

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 tryphimurium 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

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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
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

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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.

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.

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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
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/m³
Method	:	OECD Test Guideline 413

Species	:	Rabbit, male and female
NOAEL	:	2,000 mg/kg
Application Route	:	Dermal
Exposure time	:	21 days

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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

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:

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 aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test

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Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
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

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

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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 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.

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

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

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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

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

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:

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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

terphenyl:

Biodegradability	:	Result: Not biodegradable

Bioaccumulative potential

Components:

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: yes log 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 +

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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.

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. (phenyl mercuric acetate, Terphenyl)
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. (phenyl mercuric acetate, Terphenyl)
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

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UN/ID/NA number	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (phenyl mercuric acetate, Terphenyl)
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 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	11111

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), >= 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.

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

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

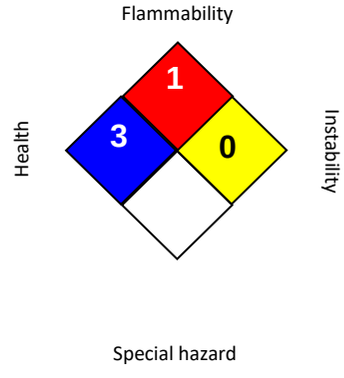
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

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.

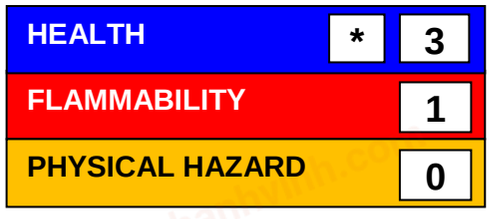
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



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

Revision Date	:	07/21/2023
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits

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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
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 / 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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