SECTION 1. IDENTIFICATION

Product identifier

Trade name : **CX 1070/4**

Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Manufacture of plastics products
Polymer additive
Stabilizer

Recommended restrictions on use : None known.

Manufacturer or supplier's details

Company name of supplier : Baerlocher Production USA LLC
513-604-2327

Address : 5890 Highland Ridge Drive
Cincinnati OH 45232

Emergency telephone number : CHEMTREC: 1-800-424-9300 (inside U.S.) / 1-703 527-3887 (outside U.S.) Collect calls are accepted

E-mail address : Hotline.PS@baerlocher.com

Responsible/issuing person : Product Safety Department

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Eye irritation : Category 2A

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Nervous system)

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Combustible material

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Mixture
Contains organic solvents.

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Diisodecyl phenyl phosphite	25550-98-5	≥ 20*
Isodecyl diphenyl phosphite	26544-23-0	≥ 20*
Barium Compounds*	Trade Secret	< 20*
White mineral oil (petroleum)	8042-47-5	≥ 10*
Zinc Compounds*	Trade Secret	< 20*
Triphenyl Phosphite	101-02-0	< 5*
Diphenyl phosphite	4712-55-4	< 5*
1,3-Diphenylpropane-1,3-dione	120-46-7	< 5*

*Trade Secret - The specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice	:	Remove and wash contaminated clothing before re-use.
If inhaled	:	Move to fresh air.
In case of skin contact	:	Wash off with soap and plenty of water. Take off contaminated clothing and shoes immediately.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids.
If swallowed	:	Call a physician immediately. Show this safety data sheet to the doctor in attendance.
Most important symptoms and effects, both acute and delayed	:	No information available.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Foam Carbon dioxide (CO2) Dry chemical Sand
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Smoke and fumes, toxic.

Further information	:	Release of Phenol by hydrolysis.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Ensure adequate ventilation. Avoid contact with skin and eyes. Use personal protective equipment.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
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 safe handling	:	Take precautionary measures against static discharges. Keep away from sources of ignition - No smoking. Provide sufficient air exchange and/or exhaust in work rooms.
Conditions for safe storage	:	Store at room temperature in the original container. Keep container tightly closed in a dry and well-ventilated place.
Technical measures/Precautions	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Barium, soluble compounds (as Ba)	Not Assigned	air 8 h	0.5 mg/m3 (Barium)	ACGIH
		PEL	0.5 mg/m3 (Barium)	OSHA
		TWA	0.5 mg/m3 (Barium)	NIOSH REL
White mineral oil (petroleum)	8042-47-5	air 8 h	5 mg/m3	ACGIH
		TWA	5 mg/m3	NIOSH REL
		STEL	10 mg/m3	NIOSH REL
		PEL	5 mg/m3	OSHA Z-1
Particulates Not Otherwise Regulated (PNOR) Respirable fraction		PEL	5 mg/m3	OSHA
		TWA	3 mg/m3	ACGIH TLV

Engineering measures : Local exhaust

Personal protective equipment

Respiratory protection	:	Up to 0.5 mg/m3: (APF=10) Any air-purifying respirator with a high-efficiency particulate filter/(APF=10) Any air-supplied respirator
Hand protection		
Glove thickness	:	>= 0.7 mm
Directive	:	protective gloves acc. to EN 374, e.g. neoprene
Eye protection	:	Safety glasses
Skin and body protection	:	Long sleeved clothing Rubber apron
Protective measures	:	antistatic shoes
Hygiene measures	:	When using do not eat or drink. Do not smoke. Wash hands before breaks and at the end of workday. Shower or bathe at the end of working. Keep working clothes separately. Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	yellowish
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	218 - 800 °C Value refers to the solvent.
Flash point	:	> 100 °C
Evaporation rate	:	No data available
Flammability (liquids)	:	Combustible Liquid
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available

Vapor pressure	:	0.1 hPa (20 °C) Value refers to the solvent.
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	0.8 - 1.0 g/cm3
Solubility(ies) Water solubility	:	slightly soluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	325 - 355 °C Value refers to the solvent.
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Refractive index	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable at normal ambient temperature and pressure.
Chemical stability	:	No decomposition if stored normally.
Possibility of hazardous reactions	:	Vapours may form explosive mixture with air.
Conditions to avoid	:	Keep away from heat and sources of ignition.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: 2,618 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 11.58 mg/l Exposure time: 4 h Test atmosphere: dust/mist

Method: Calculation method

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

Components:

Diisodecyl phenyl phosphite:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: no
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC50 (Rat): > 11.7 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Acute oral toxicity : LD50 (Rat): 3,840 mg/kg
Method: standardised international/national methodology
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : LC50 (Rat): > 8.4 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Barium Compounds:

Acute oral toxicity : Remarks: Classification
Labelling according to EC Directives
Regulation (EC) No 1272/2008, Annex VI, Table 3

Acute oral toxicity : Category 4

Acute inhalation toxicity : Remarks: Classification
Labelling according to EC Directives
Regulation (EC) No 1272/2008, Annex VI, Table 3
Acute inhalation toxicity
Category 4

Zinc Compounds:

Acute oral toxicity : Remarks: Read-across (Analogy)

LD50 (Rat): > 2,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: Not classified due to lack of data.

Acute dermal toxicity : Remarks: Read-across (Analogy)

LD50 (Rat): > 2,000 mg/kg
Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Acute oral toxicity : LD50 (Rat): 1,590 mg/kg
Method: OECD Test Guideline 401
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 6.7 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity : Remarks: study scientifically unjustified

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Components:

Diisodecyl phenyl phosphite:

Species: Rabbit
Method: OECD Test Guideline 404
Result: slight irritation
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Species: Rabbit
Method: standardised international/national methodology
Result: slight irritation
Remarks: Based on available data, the classification criteria are not met.

Zinc Compounds:

Remarks: Read-across (Analogy)

Species: Rabbit
Method: OECD Test Guideline 404
Result: slight irritation
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Species: Guinea pig
Exposure time: 24 h
Method: standardised international/national methodology
Result: slight irritation

1,3-Diphenylpropane-1,3-dione:

Species: reconstructed human epidermis (RhE)
Method: OECD Test Guideline 439
Result: No skin irritation
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

Components:

Diisodecyl phenyl phosphite:

Species: Rabbit
Result: not irritating
Method: OECD Test Guideline 405
GLP: no
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Species: Rabbit
Result: slight irritation
Method: standardised international/national methodology
Remarks: Based on available data, the classification criteria are not met.

2-(2-Butoxyethoxy) ethanol:

Species: Rabbit
Result: highly
irritating
Method: OECD Test Guideline 405
GLP: no

Zinc Compounds:

Remarks: Read-across (Analogy)

Species: Rabbit
Result: irritating
Method: OECD Test Guideline 405
GLP: yes

Triphenyl phosphite:

Species: Rabbit
Result: irritating
Method: OECD Test Guideline 405
GLP: no

1,3-Diphenylpropane-1,3-dione:

Species: Rabbit
Result: not irritating
Method: OECD Test Guideline 405
Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Components:

Diisodecyl phenyl phosphite:

Remarks: Skin sensitisation

Test Type: LLNA
Species: Mouse
Method: OECD Test Guideline 429
Result: Sensitising
GLP: yes

Remarks: Respiratory sensitisation
Based on available data, the classification criteria are not met.

of data.

Isodecyl diphenyl phosphite:

Remarks: Skin sensitisation

Test Type: Maximisation Test
Species: Guinea pig
Method: standardised international/national methodology
Result: Sensitising

Remarks: Respiratory sensitisation
Based on available data, the classification criteria are not met.

Zinc Compounds:

Remarks: Skin sensitisation

Remarks: Read-across (Analogy)
Based on available data, the classification criteria are not met.

Remarks: Respiratory sensitisation

Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Remarks: Skin sensitisation

Test Type: LLNA
Species: Mouse
Method: OECD Test Guideline 429
Result: Sensitising
GLP: yes

Remarks: Respiratory sensitisation
Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Remarks: Skin sensitisation

Test Type: LLNA
Species: Mouse
Method: OECD Test Guideline 429
Result: Sensitising
GLP: yes

Remarks: Respiratory sensitisation

Remarks: Not classified due to lack of data.

Germ cell mutagenicity<u>Components:</u>
Diisodecyl phenyl phosphite:

Genotoxicity in vitro : Test Type: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Species: Bacteria
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: DNA repair-suspension assay
Species: Bacteria
Method: standardised international/national methodology
Result: negative
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Genotoxicity in vitro : Test Type: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Species: Bacteria
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: DNA repair-suspension assay
Species: Bacteria
Method: standardised international/national methodology
Result: negative
GLP: yes

: Remarks: Read-across (Analogy)

: Test Type: Micronucleus test
Species: Human lymphocytes
Method: OECD Test Guideline 487
Result: negative
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Zinc Compounds:

Genotoxicity in vitro : Remarks: Read-across (Analogy)

: Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Genotoxicity in vitro : Test Type: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Species: Bacteria
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: DNA repair-suspension assay
Species: Bacteria
Result: negative
Remarks: Based on available data, the classification criteria are not met.

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Genotoxicity in vitro : Test Type: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Species: Bacteria
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: In vitro gene mutation study in mammalian cells
Species: mouse lymphoma cells
Method: OECD Test Guideline 476
Result: positive
GLP: yes

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Species: CHL
Method: OECD Test Guideline 487
Result: positive
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Remarks: This product contains no known or suspected carcinogens listed by IARC, NTP or OSHA at or above reportable quantities.

Components:

Diisodecyl phenyl phosphite:
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:
Remarks: Based on available data, the classification criteria are not met.

Zinc Compounds:
Remarks: Read-across (Analogy)

Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:
Remarks: Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:
Remarks: Not classified due to lack of data.

Reproductive toxicity

Components:

Diisodecyl phenyl phosphite:
Effects on fertility : Remarks: Read-across (Analogy)

Test Type: Screening for reproductive/developmental toxicity
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight
General Toxicity F1: NOAEL: 1,000 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Remarks: Read-across (Analogy)

Test Type: Screening for reproductive/developmental toxicity
Species: Rat
Application Route: Oral
Test period: 8 weeks
NOAEL: 1,000 mg/kg,
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Effects on foetal development : Remarks: Read-across (Analogy)

Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 1,000 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.
Remarks: Read-across (Analogy)
Species: Rat

Application Route: Oral
1,000 mg/kg
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Effects on fertility : Remarks: Read-across (Analogy)

Test Type: Screening for reproductive/developmental toxicity
Species: Rat
Application Route: Oral
General Toxicity - Parent: 15
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Remarks: Read-across (Analogy)

Test Type: Screening for reproductive/developmental toxicity
Species: Rat
Application Route: Oral
NOAEL: 15 mg/kg,
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Effects on foetal development	:	Remarks: Read-across (Analogy) Species: Rat Application Route: Oral Teratogenicity: 15 Method: OECD Test Guideline 422 GLP: yes Remarks: Based on available data, the classification criteria are not met. Remarks: Read-across (Analogy) Species: Rat Application Route: Oral 15 mg/kg Method: OECD Test Guideline 422 GLP: yes Remarks: Based on available data, the classification criteria are not met.

Zinc Compounds:

Effects on fertility	:	Remarks: Read-across (Analogy) Remarks: Suspected of damaging the unborn child. Remarks: Read-across (Analogy) Remarks: Suspected of damaging the unborn child.

Triphenyl phosphite:

Effects on fertility	:	Test Type: Screening for reproductive/developmental toxicity Species: Rat Application Route: Oral NOAEL: F1: 15 mg/kg, Method: OECD Test Guideline 422 GLP: yes Remarks: Based on available data, the classification criteria are not met.
Effects on foetal development	:	Species: Rat Application Route: Oral 15 mg/kg bw/day Method: OECD Test Guideline 422 GLP: yes Remarks: Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Effects on fertility	:	Remarks: Not classified due to lack of data.
		Remarks: Not classified due to lack of data.
Effects on foetal development	:	Remarks: Not classified due to lack of data. Remarks: Not classified due to lack of data.

STOT - single exposure

Components:

Diisodecyl phenyl phosphite:

Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Remarks: Based on available data, the classification criteria are not met.

Zinc Compounds:

Remarks: Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Remarks: Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Remarks: Not classified due to lack of data.

Repeated dose toxicity

Components:

Diisodecyl phenyl phosphite:

Remarks: Read-across (Analogy)

Species: Rat
NOAEL: 1,000 mg/kg
Application Route: Oral
Method: OECD Test Guideline 422
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Remarks: Read-across (Analogy)
Species: Rat
NOAEL: 15 mg/kg
Application Route: Oral
Exposure time: 16 w
Method: OECD Test Guideline 422
GLP: yes
Remarks: May cause damage to organs through prolonged or repeated exposure.

Zinc Compounds:

Remarks: Read-across (Analogy)
Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Species: Rat
NOAEL: 40 mg/kg
Application Route: Oral
Method: OECD Test Guideline 422
GLP: yes

1,3-Diphenylpropane-1,3-dione:

Species: Rat
NOAEL: 62.5 mg/kg
Application Route: Oral
Exposure time: 90 d
Method: OECD Test Guideline 408
GLP: yes
Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

Components:

Diisodecyl phenyl phosphite:

Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Based on available data, the classification criteria are not met.

White mineral oil (petroleum):

May be fatal if swallowed and enters airways.

Zinc Compounds:

Based on available data, the classification criteria are not met.

Triphenyl phosphite:

Based on available data, the classification criteria are not met.

1,3-Diphenylpropane-1,3-dione:

Not classified due to lack of data.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Diisodecyl phenyl phosphite:

Toxicity to fish : (Leuciscus idus (Golden orfe)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.2 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): 45 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Based on available data, the classification criteria are not met.

Isodecyl diphenyl phosphite:

Toxicity to fish	:	Remarks: study technically not feasible
Toxicity to daphnia and other aquatic invertebrates	:	Remarks: study technically not feasible
Toxicity to algae	:	Remarks: study technically not feasible
Toxicity to bacteria	:	Remarks: study technically not feasible

Ecotoxicology Assessment

Acute aquatic toxicity	:	Based on available data, the classification criteria are not met.
Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects., Upon contact with water PDDP readily hydrolyses into a mixture of phosphorous acid, isodecanol and phenol in an approximate molar ratio of 1:2:1., Ecological data therefore refers only to the effects of the decomposition products.

Barium Compounds:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Not classified due to lack of data.
Chronic aquatic toxicity	:	Not classified due to lack of data.

Zinc Compounds:

Toxicity to fish	:	Remarks: Read-across (Analogy)

EC50 (Fish): >= 0.169 mg/l
Exposure time: 48 h
Remarks: Zinc

EC50 (Fish): <= 0.78 mg/l
Exposure time: 48 h
Remarks: Zinc

LC50 (Oryzias latipes): > 100 mg/l
Exposure time: 96 h
Remarks: Carboxylic acid

Toxicity to daphnia and other aquatic invertebrates : Remarks: Read-across (Analogy)

EC50 (Ceriodaphnia dubia (water flea)): >= 0.147 mg/l
Exposure time: 48 h
Remarks: Zinc

EC50 (Daphnia magna (Water flea)): 85.4 mg/l
Exposure time: 48 h
Remarks: Carboxylic acid

Toxicity to algae : Remarks: Read-across (Analogy)

IC50 (Selenastrum capricornutum (green algae)): 0.136 mg/l
Remarks: Zinc

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.019 mg/l
Remarks: Zinc

NOEC (Marine species): >= 0.0078 mg/l
Remarks: Zinc

NOEC (Marine species): <= 0.67 mg/l
Remarks: Zinc

EC50 (Desmodesmus subspicatus (green algae)): 49.3 mg/l
Remarks: Carboxylic acid

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : Remarks: Read-across (Analogy)

NOEC (Fish): >= 0.044 mg/l
Test Type: Fresh water
Remarks: Zinc

NOEC (Fish): <= 0.530 mg/l
Test Type: Fresh water
Remarks: Zinc

NOEC (Fish): 0.025 mg/l
Test Type: Marine water
Remarks: Zinc

Chronic Toxicity Value (Fish): 17.7 mg/l
Test Type: Fresh water
Method: QSAR
Remarks: Carboxylic acid

Chronic Toxicity Value (Fish): 40.2 mg/l
Test Type: Marine water
Method: QSAR
Remarks: Carboxylic acid

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: Read-across (Analogy)

NOEC: >= 0.014 mg/l
Test Type: Fresh water
Remarks: Zinc

NOEC: <= 0.4 mg/l
Test Type: Fresh water
Remarks: Zinc

NOEC: >= 0.0056 mg/l
Test Type: Marine water
Remarks: Zinc

NOEC: <= 0.9 mg/l
Test Type: Marine water
Remarks: Zinc

NOEC: 18 mg/l
Test Type: Fresh water
Remarks: Carboxylic acid

Toxicity to bacteria : Remarks: Read-across (Analogy)

NOEC (activated sludge): 0.1 mg/l
Exposure time: 4 h
Test Type: static test
Remarks: Zinc

EC50 (Pseudomonas putida): 112.1 mg/l

Exposure time: 17 h
Test Type: static test
Remarks: Carboxylic acid

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Triphenyl phosphite:

Toxicity to fish : Remarks: study technically not feasible

Toxicity to daphnia and other : Remarks: study technically not feasible

aquatic invertebrates
Toxicity to algae : Remarks: study technically not feasible

Toxicity to bacteria : Remarks: study scientifically unjustified

Ecotoxicology Assessment

Acute aquatic toxicity : Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Very toxic to aquatic life.

Chronic aquatic toxicity : Classification, Labelling according to EC Directives, Regulation (EC) No 1272/2008, Annex VI, Table 3.1, Very toxic to aquatic life with long lasting effects.

1,3-Diphenylpropane-1,3-dione:

Toxicity to fish : LC50: 11.313 mg/l
Exposure time: 96 h
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates : LC50: 7.519 mg/l
Exposure time: 48 h
Method: QSAR

Toxicity to algae : 2.68 mg/l
Exposure time: 96 h
Method: QSAR

Ecotoxicology Assessment

Acute aquatic toxicity : Based on available data, the classification criteria are not met.

Chronic aquatic toxicity : Based on available data, the classification criteria are not met.

Persistence and degradability

Components:

Diisodecyl phenyl phosphite:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Inherently biodegradable.
Biodegradation: 10 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Isodecyl diphenyl phosphite:

Biodegradability	:	aerobic Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 84 % Exposure time: 28 d Method: OECD Test Guideline 301D

Barium Compounds:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Zinc Compounds:

Biodegradability	:	Remarks: Read-across (Analogy) aerobic Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 99 % Exposure time: 28 d Method: OECD Test Guideline 301E GLP: no

Triphenyl phosphite:

Biodegradability	:	aerobic Result: Not readily biodegradable. Biodegradation: 2.46 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: No information available.

1,3-Diphenylpropane-1,3-dione:

Biodegradability	:	aerobic Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 89 % Exposure time: 28 d Method: OECD Test Guideline 301B GLP: yes

Bioaccumulative potential

Components:

Diisodecyl phenyl phosphite:

Bioaccumulation	:	Bioconcentration factor (BCF): 33.27 - 606.5 Method: QSAR
Partition coefficient: n-octanol/water	:	log Pow: 9.32 (20 °C)

Isodecyl diphenyl phosphite:

Bioaccumulation	:	Bioconcentration factor (BCF): 606.5 Method: QSAR

Barium Compounds:

Bioaccumulation	:	Remarks: Read-across (Analogy) Remarks: Bioaccumulation is unlikely.

Zinc Compounds:

Bioaccumulation	:	Remarks: Read-across (Analogy) This substance is not considered to be bioaccumulating.
Partition coefficient: n-octanol/water	:	log Pow: > 5.7 Method: OECD Test Guideline 107 GLP: no

Triphenyl phosphite:

Bioaccumulation	:	Bioconcentration factor (BCF): 862.2 - 10,902 Method: QSAR Remarks: Hydrolysis not considered

1,3-Diphenylpropane-1,3-dione:

Bioaccumulation	:	Remarks: study scientifically unjustified
Partition coefficient: n-octanol/water	:	log Pow: < 3

Mobility in soil

Components:

Diisodecyl phenyl phosphite:

Mobility	:	Method: QSAR Remarks: Predicted distribution to environmental compartments Sediment Soil

Isodecyl diphenyl phosphite:

Mobility	:	Method: QSAR Remarks: Predicted distribution to environmental compartments Sediment Soil

Barium Compounds:

Mobility	:	Remarks: No data available

Zinc Compounds:

Mobility : Remarks: Read-across (Analogy)

Method: QSAR
Remarks: Predicted distribution to environmental compartments
Water

Triphenyl phosphite:

Mobility : Method: QSAR
Remarks: Predicted distribution to environmental compartments
Sediment
Soil

1,3-Diphenylpropane-1,3-dione:

Mobility : Remarks: No data available

Other adverse effects

Components:

Diisodecyl phenyl phosphite:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

Isodecyl diphenyl phosphite:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

Barium Compounds:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

2-(2-Butoxyethoxy) ethanol:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

Zinc Compounds:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

Triphenyl phosphite:

Results of PBT and vPvB assessment : Based on available data, the classification criteria are not met.

Endocrine disrupting potential : No information available.

1,3-Diphenylpropane-1,3-dione:

Results of PBT and vPvB assessment	:	Based on available data, the classification criteria are not met.
Endocrine disrupting potential	:	No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Consult an expert on the disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Dispose in accordance with local, state and federal regulations.
Contaminated packaging	:	Empty containers must be handled with care due to product residue.

SECTION 14. TRANSPORT INFORMATION

National Regulations

DOT
Not regulated as a dangerous good

International Regulations

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diphenyl phosphonate, diphenyl(isodecyl)phosphite, solution)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (diphenyl phosphonate, diphenyl(isodecyl)phosphite, solution)
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.

SECTION 15. REGULATORY INFORMATION

SARA 313 : This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372:

Components	CAS-No.	Wt.
Barium Compounds (N040)	Not Assigned	12.6
Zinc Compounds (N982)	Not Assigned	8.2

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

EINECS	listed
TSCA	listed
DSL	listed
AICS	listed
ECL	listed
PICCS	listed
CHINA	listed

SECTION 16. OTHER INFORMATION

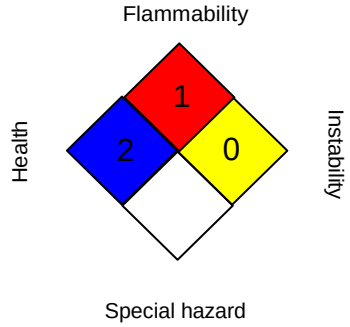
Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil A viation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Develop-

ment; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	**1**
PHYSICAL HAZARD	**0**

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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