according to the OSHA Hazard Communication Standard



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SECTION 1. IDENTIFICATION

: TBPIN Trade name

CAS-No. 13122-18-4

Manufacturer or supplier's details

Company name of supplier United Initiators, Inc.

Address 555 Garden Street

Elyria OH 44035 USA

Telephone +1-440-323-3112

Telefax +1-440-323-2659

Emergency telephone CHEMTREC US (24h): +1-800-424-9300

> CHEMTREC WORLD (24h): +1-703-527-3887

E-mail address of person

responsible for the SDS

cs-initiators.nafta@united-in.com

Recommended use of the chemical and restrictions on use

Recommended use polymerization initiators

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Organic peroxides : Type D

Skin sensitization Sub-category 1B

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 3

GHS label elements

Hazard pictograms







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Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.

H317 May cause an allergic skin reaction.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible

materials.

P234 Keep only in original container. P261 Avoid breathing mist or vapors.

P272 Contaminated work clothing must not be allowed out of

the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P333 + P313 If skin irritation or rash occurs: Get medical advice/

attention.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

Storage:

P410 Protect from sunlight.

P411 + P235 Store at temperatures not exceeding < 30 °C/ <

86 °F. Keep cool.

P420 Store away from other materials.

Disposal:

P501 Dispose of contents/ container to an approved waste dis-

posal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Chemical nature : Organic Peroxide

liquid

Substance name : tert-butyl 3,5,5-trimethylperoxyhexanoate

according to the OSHA Hazard Communication Standard



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CAS-No. : 13122-18-4

Components

Chemical name	CAS-No.	Concentration (% w/w)
tert-butyl 3,5,5-	13122-18-4	<= 100
trimethylperoxyhexanoate		

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.

Call a physician immediately.

Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical

advice.

Move out of dangerous area.

Show this material safety data sheet to the doctor in

attendance.

Do not leave the victim unattended.

If inhaled : Administer oxygen if breathing is difficult or cyanosis is

observed.

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

If unconscious, place in recovery position and seek medical

advice.

If symptoms persist, call a physician.

In case of skin contact : If symptoms persist, call a physician.

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing

and shoes.

Wash contaminated clothing before re-use.

If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Remove contact lenses. Protect unharmed eye.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Call a physician immediately.

Keep respiratory tract clear.

If symptoms persist, call a physician.

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Most important symptoms and effects, both acute and

delayed

May cause an allergic skin reaction.

sensitizing effects

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray jet

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire

fighting

Risk of explosion if heated under confinement.

Possible emission of gaseous decomposition products may

lead to a dangerous pressure build-up.

Avoid confinement.

Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-

accelerating decomposition reaction with release of flammable

vapors which may auto-ignite.

The product burns violently.

Flash back possible over considerable distance.

Do not allow run-off from fire fighting to enter drains or water

courses.

Vapors may form explosive mixtures with air.

The product will float on water and can be reignited on surface

water.

Cool closed containers exposed to fire with water spray.

Specific extinguishing meth-

ods

Do not use a solid water stream as it may scatter and spread

fire.

Remove undamaged containers from fire area if it is safe to do

SO.

Use water spray to cool unopened containers.

Further information : Use extinguishing measures that are appropriate to local

circumstances and the surrounding environment. Use a water spray to cool fully closed containers.

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.

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Special protective equipment :

for fire-fighters

Wear self-contained breathing apparatus for firefighting if

necessary.

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : tive equipment and emer-

gency procedures

Follow safe handling advice and personal protective

equipment recommendations.

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Use personal protective equipment. Remove all sources of ignition.

Never return spills in original containers for re-use.

Treat recovered material as described in the section "Disposal

considerations".

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

Contact with incompatible substances can cause

decomposition at or below SADT.

Clear spills immediately.

Suppress (knock down) gases/vapors/mists with a water spray

jet.

To clean the floor and all objects contaminated by this

material, use plenty of water.

Soak up with inert absorbent material. Isolate waste and do not reuse. Non-sparking tools should be used.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

employed in the cleanup of releases. You will need to

determine which regulations are applicable.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Advice on protection against

fire and explosion

Take necessary action to avoid static electricity discharge

(which might cause ignition of organic vapors). Keep away from heat and sources of ignition.

Use only explosion-proof equipment.

Keep away from open flames, hot surfaces and sources of

ignition.

Keep away from combustible material.

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Advice on safe handling : Open drum carefully as content may be under pressure.

Protect from contamination. Do not breathe vapors/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

Avoid formation of aerosol.

Take precautionary measures against static discharges. Never return any product to the container from which it was originally removed.

Provide sufficient air exchange and/or exhaust in work rooms.

Avoid confinement.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Smoking, eating and drinking should be prohibited in the

application area.

Wash thoroughly after handling. For personal protection see section 8.

Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being

used.

Conditions for safe storage : Store in original container.

Keep containers tightly closed in a cool, well-ventilated place.

Store in cool place.

Keep in a well-ventilated place.

Contamination may result in dangerous pressure increases -

closed containers may rupture. Observe label precautions.

Store in accordance with the particular national regulations. Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Electrical installations / working materials must comply with

the technological safety standards.

Containers which are opened must be carefully resealed and

kept upright to prevent leakage.

Materials to avoid : Keep away from combustible materials.

Keep away from strong acids, bases, heavy metal salts and

other reducing substances.

Recommended storage tem- :

perature

< 30 °C

< 86 °F

Further information on stor-

age stability

: Stable under recommended storage conditions.

according to the OSHA Hazard Communication Standard



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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an

approved filter.

Filter type : ABEK-filter

Use NIOSH approved respiratory protection.

Hand protection

Material : butyl-rubber
Break through time : <= 480 min
Glove thickness : 0.47 mm

Material : Nitrile rubber
Break through time : <= 480 min
Glove thickness : 0.40 mm

Remarks : The data about break through time/strength of material are

standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the

hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before

breaks and at the end of workday.

Eye protection : Ensure that eyewash stations and safety showers are close

to the workstation location.

Please follow all applicable local/national requirements when selecting protective measures for a specific workplace. Always wear eye protection when the potential for inadvertent

eye contact with the product cannot be excluded.

Tightly fitting safety goggles

Please wear suitable protective goggles. Also wear face

protection if there is a splash hazard.

Skin and body protection : Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure

potential.

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Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets,

disposable suits) to avoid exposed skin surfaces.

Wear as appropriate:

Flame retardant antistatic protective clothing.

Protective measures : The type of protective equipment must be selected according

to the concentration and amount of the dangerous substance

at the specific workplace.

Hygiene measures : Avoid contact with skin, eyes and clothing.

Keep away from food and drink. When using do not eat or drink. When using do not smoke.

Wash hands before breaks and immediately after handling

the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : very faint, ester-like

Odor Threshold : No data available

pH : substance/mixture is non-soluble (in water)

Melting point/freezing point : < -25 °C

(1,013 hPa)

Initial boiling point and boiling :

range

Decomposition: Decomposes below the boiling point.

Flash point : 94 °C

Method: ISO 3679

Evaporation rate : No data available

Flammability (liquids) : Organic peroxide

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Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper

flammability limit

not determined

Lower explosion limit / Lower

flammability limit

not determined

Vapor pressure : 0.03 hPa (30 °C)

Relative vapor density : not determined

Relative density : not determined

Density : 0.89 g/cm3 (20 °C)

Solubility(ies)

Water solubility : 0.0142 g/l insoluble (20 °C)

Partition coefficient: n-

octanol/water

: log Pow: 5.16

Autoignition temperature : not determined

Self-Accelerating decomposi-

tion temperature (SADT)

60 °C

Method: UN-Test H.4

SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a

self-accelerating decomposition reaction.

Viscosity

Viscosity, dynamic : 5 mPa.s (20 °C)

Viscosity, kinematic : not determined

Explosive properties : Not explosive In use, may form flammable/explosive vapor-air

mixture.

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Organic peroxide

Self-heating substances : The substance or mixture is not classified as self heating.

Refractive index : 1.431 (20 °C)

according to the OSHA Hazard Communication Standard



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SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

Heating may cause a fire or explosion.

Chemical stability : Stable under recommended storage conditions.

No decomposition if stored normally.

Possibility of hazardous reac-

tions

Vapors may form explosive mixture with air.

Conditions to avoid : Protect from contamination.

Contact with incompatible substances can cause

decomposition at or below SADT.

Heat, flames and sparks. Avoid confinement.

Incompatible materials : Accelerators, strong acids and bases, heavy metals and

heavy metal salts, reducing agents

Hazardous decomposition

products

Irritant, caustic, flammable, noxious/toxic gases and vapours

can develop in the case of fire and decomposition

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Acute oral toxicity : LD50 (Rat): 12,905 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 0.8 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD0 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Skin corrosion/irritation

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

Product:

Remarks : May cause skin irritation in susceptible persons.

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Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

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

Product:

Remarks : Vapors may cause irritation to the eyes, respiratory system

and the skin.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Remarks : Causes sensitization.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : The product is a skin sensitizer, sub-category 1B.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Metabolic activation: Metabolic activation Method: OECD Test Guideline 471

Result: positive

according to the OSHA Hazard Communication Standard



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Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Rat

Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Not classified due to lack of data.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Remarks : This information is not available.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHANo component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

NTP No ingredient 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

Not classified due to lack of data.

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening

test

Species: Rat, male and female

Application Route: Oral

General Toxicity Parent: NOAEL: 160 mg/kg bw/day General Toxicity F1: NOAEL: 160 mg/kg bw/day

Method: OECD Test Guideline 421

General Toxicity Parent: NOAEL: 50 mg/kg bw/day

Method: OECD Test Guideline 443

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Oral

General Toxicity Maternal: NOAEL: 150 mg/kg body weight

Method: OECD Test Guideline 414

Result: negative

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STOT-single exposure

Not classified due to lack of data.

STOT-repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Species : Rat, male and female

NOAEL : 160 mg/kg Application Route : oral (gavage)

Exposure time : 90 d

Method : OECD Test Guideline 408

Species : Rat, male and female

NOAEL : 50 mg/kg Application Route : oral (gavage)

Exposure time : 28 d

Method : OECD Test Guideline 407

Aspiration toxicity

Not classified due to lack of data.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 7.03 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

NOEC (Oncorhynchus mykiss (rainbow trout)): 3 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 0.52 mg/l

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aquatic invertebrates Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

NOEC (Pseudokirchneriella subcapitata (algae)): 0.125 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (algae)): 0.51 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.22 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms EC50 (Bacteria): 327.02 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Persistence and degradability

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Biodegradability aerobic

Result: Readily biodegradable.

Biodegradation: 72 % Exposure time: 28 d

Method: OECD Test Guideline 301D

Bioaccumulative potential

Components:

tert-butyl 3,5,5-trimethylperoxyhexanoate:

Bioaccumulation Bioconcentration factor (BCF): 375

Remarks: Calculation

Partition coefficient: n-

octanol/water

log Pow: 5.16

Mobility in soil No data available

Other adverse effects

Product:

Ozone-Depletion Potential Regulation: 40 CFR Protection of Environment; Part 82 Pro-

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tection 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 infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of wastes in an approved waste disposal facility.

The product should not be allowed to enter drains, water

courses or the soil.

Do not contaminate ponds, waterways or ditches with

chemical or used container.

Contaminated packaging : Dispose of in accordance with local regulations.

Clean container with water.

Dispose of contents/ container to an approved waste disposal

plant.

Empty remaining contents.

Dispose of as unused product.

Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3105

Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID

(tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE)

Class : 5.2

Packing group : Not assigned by regulation

Labels : 5.2 Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3105

Proper shipping name : Organic peroxide type D, liquid

(tert-Butyl peroxy-3,5,5-trimethylhexanoate)

Class : 5.2

Packing group : Not assigned by regulation

Labels : Organic Peroxides, Keep Away From Heat

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Packing instruction (cargo : 570

aircraft)

Packing instruction (passen- : 570

ger aircraft)

IMDG-Code

UN number : UN 3105

Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID

(tert-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE)

Class : 5.2

Packing group : Not assigned by regulation

Labels : 5.2 EmS Code : F-J, S-R Marine pollutant : yes

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

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 3105

Proper shipping name : Organic peroxide type D, liquid

(tert-Butylperoxy-3,5,5-trimethylhexanoate, 99%)

Class : 5.2

Packing group : Not assigned by regulation Labels : ORGANIC PEROXIDE

ERG Code : 145 Marine pollutant : yes

Special precautions for user

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

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Organic peroxides

Respiratory or skin sensitization

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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.

Clean Air Act

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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

International Regulations

Gefahrgruppe nach TRGS 741: lb (German regulatory requirements)

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

TCSI (TW) : On the inventory, or in compliance with the inventory

TSCA (US) : All substances listed as active on the TSCA inventory

AllC (AU) : On the inventory, or in compliance with the inventory

DSL (CA) : All components of this product are on the Canadian DSL

ENCS (JP) : On the inventory, or in compliance with the inventory

ISHL (JP) : On the inventory, or in compliance with the inventory

KECI (KR) : On the inventory, or in compliance with the inventory

PICCS (PH) : On the inventory, or in compliance with the inventory

IECSC (CN) : On the inventory, or in compliance with the inventory

TECI (TH) : On the inventory, or in compliance with the inventory

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TSCA list

No substances are subject to a Significant New Use Rule.

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

SECTION 16. OTHER INFORMATION

Further information

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

These safety instructions also apply to empty packaging which may still contain product residues. The hazards on the label also apply to residues in the container.

Sources of key data used to compile the Material Safety

Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Revision Date : 04/29/2024

Full text of other abbreviations

AllC - 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 Aviation 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 Development; OPPTS - Office

according to the OSHA Hazard Communication Standard



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Version Revision Date: SDS Number: Date of last issue: 11/19/2020 3.0 04/29/2024 600000000003 Date of first issue: 01/10/2019

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

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