Version	Revision Date:	SDS Number:	Date of last issue: 15.03.2022
3.3	06.03.2023	600000000442	Date of first issue: 16.10.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : TBPIB-50-AL

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

Use of the Substance/Mixture : polymerisation initiators, This substance should be handled under strictly controlled conditions as specified in REACH regulation article 18(4). Site documentation to support safe handling arrangements in accordance with risk-based management system should be available at each manufacturing site. During the whole lifecycle all necessary measures should be undertaken to minimize emissions and any resulting exposure.

1.3 Details of the supplier of the safety data sheet

Company : United Initiators GmbH
Dr.-Gustav-Adolph-Str. 3
82049 Pullach

Telephone : +49 / 89 / 74422 – 0

E-mail address of person responsible for the SDS : contact@united-in.com

1.4 Emergency telephone number

0800 000 7801 (toll-free, access from Germany only) +49 89 220 61012

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Organic peroxides, Type D	H242: Heating may cause a fire.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H304 May be fatal if swallowed and enters airways.
H331 Toxic if inhaled.
H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.
P233 Keep container tightly closed.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P315 Get immediate medical advice/ attention.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P411 Store at temperatures not exceeding 15 °C.

Disposal:

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

Hazardous components which must be listed on the label:
2,2,4,6,6-pentamethylheptane (CAS-No. 13475-82-6)
tert-Butyl peroxyisobutyrate (CAS-No. 109-13-7)

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Organic Peroxide
Liquid mixture

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2,2,4,6,6-pentamethylheptane	13475-82-6 236-757-0 01-2119490725-29	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Aquatic Chronic 4; H413 EUH066	>= 50 - < 55
tert-Butyl peroxyisobutyrate	109-13-7 203-650-5 01-2119964669-16-0000	Flam. Liq. 3; H226 Org. Perox. B; H241 Acute Tox. 3; H331 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 45 - < 50

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.
No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus.

Call a physician immediately.

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
If inhaled	:	Call a physician or poison control centre immediately. If unconscious, place in recovery position and seek medical advice. Keep respiratory tract clear. Call a physician immediately. If breathed in, move person into fresh air. Contact a poison control center.
In case of skin contact	:	Wash contaminated clothing before re-use. If on skin, rinse well with water. If on clothes, remove clothes. If symptoms persist, call a physician.
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	:	Keep respiratory tract clear. Call a physician immediately. Contact a poison control center.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	May be fatal if swallowed and enters airways. Toxic if inhaled. Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray jet Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : 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.
Vapours may form explosive mixtures with air.
Cool closed containers exposed to fire with water spray.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : 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 : 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.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Follow safe handling advice and personal protective equipment recommendations.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.
Clear spills immediately.
Suppress (knock down) gases/vapours/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.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling : Do not swallow.
Do not breathe vapours/dust.
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.
Protect from contamination.

Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	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. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in accordance with the particular national regulations.
Advice on common storage	:	Keep away from strong acids, bases, heavy metal salts and other reducing substances.
Storage class (TRGS 510)	:	5.2, Organic peroxides and self-reacting hazardous materials
Recommended storage temperature	:	< 10 °C
Further information on storage stability	:	No decomposition if stored normally.

7.3 Specific end use(s)

Specific use(s)	:	For further information, refer to the product technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
tert-Butyl peroxyisobutyrate	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Skin contact	Long-term systemic effects	1 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
tert-Butyl peroxyisobutyrate	Fresh water	0,0817 mg/l
	Marine water	0,00817 mg/l
	Intermittent use/release	0,0817 mg/l
	Sewage treatment plant	2,07 mg/l
	Fresh water sediment	2,41 mg/kg
	Marine sediment	0,241 mg/kg

	Soil	0,434 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

Personal protective equipment

Eye protection : Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
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.

Equipment should conform to EN 166

Hand protection

Material	:	Nitrile rubber
Break through time	:	< 30 min
Glove thickness	:	0,40 mm
Directive	:	Equipment should conform to EN 374

Material	:	butyl-rubber
Break through time	:	< 60 min
Glove thickness	:	0,70 mm
Directive	:	Equipment should conform to EN 374

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.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
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.

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

Respirator with combination filter for vapour/particulate (EN 141)

Filter type : ABEK-filter

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	colourless
Odour	:	ester-like
Odour Threshold	:	not determined
Melting point/freezing point	:	not determined
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flammability	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Upper explosion limit not determined
Lower explosion limit / Lower flammability limit	:	Lower explosion limit not determined
Flash point	:	43 °C Method: ISO 3679, closed cup
Self-Accelerating decomposition temperature (SADT)	:	ca. 40 °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.
pH	:	Not applicable substance/mixture is non-soluble (in water)
Viscosity		
Viscosity, dynamic	:	ca. 1 mPa.s (20 °C) No data available
Viscosity, kinematic	:	not determined

Solubility(ies)

Water solubility	:	practically insoluble
Solubility in other solvents	:	Solvent: Hydrocarbons Description: soluble Solvent: organic solvents Description: soluble
Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	not determined
Relative density	:	not determined
Density	:	0,82 g/cm3 (20 °C)
Relative vapour density	:	not determined

9.2 Other information

Explosives	:	Not explosive In use, may form flammable/explosive vapour-air mixture.
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Self-ignition	:	The substance or mixture is not classified as pyrophoric.
Self-heating substances	:	The substance or mixture is not classified as self heating.
Evaporation rate	:	No data available
Refractive index	:	1,414 at 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Protect from contamination.

Contact with incompatible substances can cause decomposition at or below SADT.
Heat, flames and sparks.
Avoid confinement.

10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Toxic if inhaled.

Product:

Acute inhalation toxicity : Acute toxicity estimate: 6 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Components:

2,2,4,6,6-pentamethylheptane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5.000 mg/kg
Method: OECD Test Guideline 402

tert-Butyl peroxyisobutyrate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401
Assessment: The component/mixture is minimally toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): > 2,53 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Method: OECD Test Guideline 403
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rabbit): > 2.500 mg/kg
Method: OECD Test Guideline 402
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: Based on data from similar materials

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

2,2,4,6,6-pentamethylheptane:

Result : Repeated exposure may cause skin dryness or cracking.

tert-Butyl peroxyisobutyrate:

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

Serious eye damage/eye irritation

Not classified based on available information.

Components:

2,2,4,6,6-pentamethylheptane:

Result : No eye irritation

tert-Butyl peroxyisobutyrate:

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

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

tert-Butyl peroxyisobutyrate:

Species : Guinea pig
Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Components:

2,2,4,6,6-pentamethylheptane:

Germ cell mutagenicity- Assessment : No known effect.

tert-Butyl peroxyisobutyrate:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: positive

Method: OECD Test Guideline 476
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Test Type: comet assay
Species: Rat
Application Route: Oral
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

2,2,4,6,6-pentamethylheptane:

Carcinogenicity - Assessment : No known effect.

tert-Butyl peroxyisobutyrate:

Remarks : This information is not available.

Reproductive toxicity

Not classified based on available information.

Components:

2,2,4,6,6-pentamethylheptane:

Reproductive toxicity - As- : No known effect.

sessment

tert-Butyl peroxyisobutyrate:

Effects on fertility : Species: Rat
General Toxicity - Parent: NOAEL: 200 mg/kg body weight
General Toxicity F1: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

tert-Butyl peroxyisobutyrate:

Species	:	Rat, male
NOAEL	:	200 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28 d
Method	:	OECD Test Guideline 422

Species	:	Rat, female
NOAEL	:	600 mg/kg
Application Route	:	oral (gavage)
Exposure time	:	28 d
Method	:	OECD Test Guideline 422

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

2,2,4,6,6-pentamethylheptane:

May be fatal if swallowed and enters airways.

tert-Butyl peroxyisobutyrate:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to

REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : Solvents may degrease the skin.

Components:

2,2,4,6,6-pentamethylheptane:

Remarks : May cause headache and dizziness.

SECTION 12: Ecological information

12.1 Toxicity

Components:

2,2,4,6,6-pentamethylheptane:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): > 0,04 mg/l
Exposure time: 48 h
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : IC50 (algae): > 0,04 mg/l
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

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

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

tert-Butyl peroxyisobutyrate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 17,2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 72,5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 6,13 mg/l

Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,28 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 207 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

12.2 Persistence and degradability

Components:

2,2,4,6,6-pentamethylheptane:

Biodegradability : Result: Not readily biodegradable.

tert-Butyl peroxyisobutyrate:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential

Components:

2,2,4,6,6-pentamethylheptane:

Partition coefficient: n-octanol/water : log Pow: 5,94 - 6,16 (20 °C)
Remarks: The value is calculated

tert-Butyl peroxyisobutyrate:

Partition coefficient: n-octanol/water : log Pow: 2,68 (25 °C)

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.
Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : 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.
Dispose of in accordance with local regulations.

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 3115

ADR : UN 3115

RID : UN 3115
Not permitted for transport

IMDG : UN 3115

IATA : UN 3115
Not permitted for transport

14.2 UN proper shipping name

ADN : ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE

CONTROLLED
(tert-BUTYL PEROXYISOBUTYRATE)

ADR : ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
(tert-BUTYL PEROXYISOBUTYRATE)

RID : ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
Not permitted for transport

IMDG : ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
(tert-BUTYL PEROXYISOBUTYRATE)

IATA : ORGANIC PEROXIDE TYPE D, LIQUID, TEMPERATURE CONTROLLED
Not permitted for transport

14.3 Transport hazard class(es)

ADN : 5.2

ADR : 5.2

RID : Not permitted for transport

IMDG : 5.2

IATA : Not permitted for transport

14.4 Packing group

ADN
Packing group : Not assigned by regulation
Classification Code : P2
Labels : 5.2

ADR
Packing group : Not assigned by regulation
Classification Code : P2
Labels : 5.2
Tunnel restriction code : (D)

RID : Not permitted for transport

IMDG
Packing group : Not assigned by regulation
Labels : 5.2
EmS Code : F-F, S-R

IATA (Cargo) : Not permitted for transport

IATA (Passenger) : Not permitted for transport

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID : Not permitted for transport

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Additional advice

Temperature controlled transport.:
Control temperature : 15 °C
Emergency temperature : 20 °C

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.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 3

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
H2	ACUTE TOXIC	50 t	200 t

P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES	50 t	200 t
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

Water hazard class (Germany) : WGK 2 obviously hazardous to water
Classification according to AwSV, Annex 1 (5.2)

Other regulations:

Gefahrgruppe nach DGUV 13 Vorschrift 13 (bisher BGV B4): II (German regulatory requirements)

The product is subject to the supply restrictions of the Ordinance on the Prohibition of Chemicals.

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

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

DSL (CA) : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

tert-Butyl peroxyisobutyrate

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

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H226 : Flammable liquid and vapour.

H241	:	Heating may cause a fire or explosion.
H304	:	May be fatal if swallowed and enters airways.
H331	:	Toxic if inhaled.
H411	:	Toxic to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Flam. Liq.	:	Flammable liquids
Org. Perox.	:	Organic peroxides

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	This 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.

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Org. Perox. D	H242	Based on product data or assessment
Acute Tox. 3	H331	Calculation method
Asp. Tox. 1	H304	Calculation method
Aquatic Chronic 2	H411	Calculation method

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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