

NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 2024/07/12
4.0	2025/02/25	60000000030	Date of first issue: 2018/07/10

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	NOROX®TBPB
Chemical nature	:	Organic Peroxide liquid
Manufacturer or supplier's de	etai	ils
Company	:	United Initiators (Shanghai) Co., Ltd
Address	:	Room 501, Bldg. 1, No. 1 Shangda Road Shanghai, China, 200444
Emergency telephone number	:	+86 21 61172762
E-mail address	:	cs-initiators.cn@united-in.com
Recommended use of the ch Recommended use	em :	ical and restrictions on use polymerisation initiators

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance Colour Odour	:	liquid light yellow ester-like
3 ,		skin and eye irritation. May cause an allergic skin reaction. quatic life. Harmful to aquatic life with long lasting effects.
GHS Classification Serious eye damage/eye irri- tation	:	Category 2B
Organic peroxides	:	Туре С
Acute toxicity (Inhalation)	:	Category 4
Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irri- tation	:	Category 2B
Skin sensitisation	:	Category 1
Short-term (acute) aquatic	:	Category 1



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hazar	rd		
Long- hazar	-term (chronic) aquatic [.] d	: Category 3	
	label elements rd pictograms		
Signa	al word	: Danger	
Haza	rd statements	H315 + H320 H317 May cau H332 Harmful H400 Very tox	may cause a fire. Causes skin and eye irritation. use an allergic skin reaction. if inhaled. kic to aquatic life. to aquatic life with long lasting effects.
Preca	autionary statements	No smoking. P220 Keep/ S P234 Keep or P261 Avoid bi P264 Wash sl P271 Use only P272 Contam the workplace P273 Avoid re	vay from heat/ sparks/ open flames/ hot surface tore away from clothing/ combustible materials. Ily in original container. reathing mist or vapours. kin thoroughly after handling. y outdoors or in a well-ventilated area. inated work clothing should not be allowed out o elease to the environment. otective gloves/ eye protection/ face protection.
		P304 + P340 and keep com doctor if you fe P305 + P351 for several min easy to do. Co P333 + P313 vice/ attention P337 + P313 tention.	 + P338 IF IN EYES: Rinse cautiously with water nutes. Remove contact lenses, if present and ontinue rinsing. If skin irritation or rash occurs: Get medical ad If eye irritation persists: Get medical advice/ at- Take off contaminated clothing and wash it before

according to GB/T 16483 and GB/T 17519



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P410 Protect from sunlight.

P411 + P235 Store at temperatures not exceeding 40 °C/ 104 °F. Keep cool.

P420 Store away from other materials.

Disposal:

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

Physical and chemical hazards

Heating may cause a fire.

Health hazards

Causes eye irritation. Harmful if inhaled. Causes skin irritation. Causes eye irritation. May cause an allergic skin reaction.

Environmental hazards

Very toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Substance
Substance name	:	tert-Butyl perbenzoate
CAS-No.	:	614-45-9

Components

Chemical name	CAS-No.	Concentration (% w/w)
tert-Butyl perbenzoate	614-45-9	<= 100

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.
If inhaled	 Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. Symptoms of poisoning may appear several hours later. Administer oxygen if breathing is difficult or cyanosis is observed. If breathed in, move person into fresh air. If not breathing, give artificial respiration. Call a physician or poison control centre immediately.

according to GB/T 16483 and GB/T 17519



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				lf unconscious, p advice. Keep respiratory	lace in recovery position and seek medical tract clear.
In case of eve 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.		
	lf swall	owed	:	Call a physician immediately. Rinse mouth thoroughly with water. Keep respiratory tract clear. If symptoms persist, call a physician.	
		nportant symptoms ects, both acute and d	:	Causes skin and eye irritation. May cause an allergic skin reaction. Harmful if inhaled. sensitising effects	
	Protect	ion of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing	
	Notes t	o physician	:	Treat symptomat	ically and supportively.
5. FI	REFIG	HTING MEASURES			
	Suitabl	e extinguishing media	:	Water spray jet Alcohol-resistant Carbon dioxide (0 Dry chemical	
	Unsuita media	able extinguishing	:	High volume wate	er jet
	Specifi fighting	c hazards during fire-	:	Possible emission lead to a dangero Avoid confinement	if heated under confinement. n of gaseous decomposition products may ous pressure build-up. nt. mpatible materials or exposure to tempera-
				4 / 00	

according to GB/T 16483 and GB/T 17519





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			tures exceeding SADT may result in a self-accelerating de- composition reaction with release of flammable vapors whice 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 wate courses. Vapours may form explosive mixtures with air. The product will float on water and can be reignited on surfativater. Cool closed containers exposed to fire with water spray.		
	Specific extinguishing meth- ods		:	cumstances and t Use a water spray Collect contamina must not be disch Fire residues and	measures that are appropriate to local cir- he surrounding environment. / to cool fully closed containers. ted fire extinguishing water separately. This arged into drains. contaminated fire extinguishing water must accordance with local regulations.
				fire. Remove undamag so.	I water stream as it may scatter and spread ged containers from fire area if it is safe to do o cool unopened containers.
	Specia for firef	l protective equipment ighters	:	Wear self-contain essary. Use personal prot	ed breathing apparatus for firefighting if nec- ective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- : tive equipment and emer- gency procedures	Follow safe handling advice and personal protective equip- ment recommendations. Beware of vapours accumulating to form explosive concentra- tions. Vapours can accumulate in low areas. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.
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 source structures to the second	Contact with incompatible substances can cause decomposi- tion at or below SADT.

according to GB/T 16483 and GB/T 17519



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			spray jet. To clean the floor al, use plenty of w Soak up with iner Isolate waste and Non-sparking tool Local or national posal of this mate employed in the c	down) gases/vapours/mists with a water and all objects contaminated by this materi- vater. t absorbent material.
Preve haza	ention of secondary rds	:		s in original containers for re-use. naterial as described in the section "Disposal
7. HANDL	ING AND STORAGE			
Hand	lling			
Tech	nical measures	:		measures under EXPOSURE SONAL PROTECTION section.
	ce on protection against nd explosion	:	(which might caus Keep away from I Use only explosio Keep away from o ignition.	action to avoid static electricity discharge se ignition of organic vapours). neat and sources of ignition. on-proof equipment. open flames, hot surfaces and sources of combustible material.
Advic	e on safe handling	:	Protect from conta Do not swallow. Do not breathe va Avoid exposure - Avoid contact with Avoid formation of Take precautiona Never return any originally removed Provide sufficient Avoid confinement Keep away from H other ignition sour Smoking, eating a plication area. Wash thoroughly For personal prote	apours/dust. obtain special instructions before use. n skin and eyes. f aerosol. ry measures against static discharges. product to the container from which it was d. air exchange and/or exhaust in work rooms. nt. neat, hot surfaces, sparks, open flames and rces. No smoking. and drinking should be prohibited in the ap-

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					or recurrent respiratory disease should not ny process in which this mixture is being		
Av	Avoidance of contact		:	Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents			
St	orage	9					
	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 an kept upright to prevent leakage.			
Ma	ateria	ls to avoid	:		combustible materials. strong acids, bases, heavy metal salts and bstances.		
	ecomi erature	mended storage tem- e	:	10 - 40 °C			
	urther je sta	information on stor- bility	:	Stable under reco	mmended storage conditions.		

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components 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				
Eye/face 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.				

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		eye contact v Tightly fitting Please wear	eye protection when the potential for inadvertent with the product cannot be excluded. safety goggles suitable protective goggles. Also wear face pro- e is a splash hazard.			
Skin	and body protection	resistance da potential. Additional bo task being pe posable suits Wear as app	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, dis- posable suits) to avoid exposed skin surfaces. Wear as appropriate: Flame retardant antistatic protective clothing.			
M B	d protection laterial reak through time love thickness	: Nitrile rubber : 480 min : 0.40 mm				
R	emarks	standard valu material has tive glove. Cl depending or ous substand plications, we cals of the af	but break through time/strength of material are ues! The exact break through time/strength of to be obtained from the producer of the protec- hoose gloves to protect hands against chemicals in the concentration and quantity of the hazard- ce and specific to place of work. For special ap- e recommend clarifying the resistance to chemi- orementioned protective gloves with the glove r. Wash hands before breaks and at the end of			
Prote	ective measures		protective equipment must be selected according ntration and amount of the dangerous substance c workplace.			
Hygi	ene measures	Keep away fi When using When using	t with skin, eyes and clothing. rom food and drink. do not eat or drink. do not smoke. before breaks and immediately after handling			

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow

Odour

according to GB/T 16483 and GB/T 17519



Odour Threshold:No data availablepH:not determined substance/mixture is non-soluble (in water)Melting point/freezing point:ca. 10 °CInitial boiling point and boiling range:Decomposition: Decomposes below the boiling point.Flash point:100 °CRethod: ISO 3679, closed cup:Evaporation rate:No data availableFlammability (solid, gas):Not applicableFlammability (liquids):Organic peroxideSelf-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper flammability limit:Upper explosion limit not determinedLower explosion limit / Lower flammability limit:.Ooo3 hPa (20 °C)Relative density:insolubleRelative density:insolubleSolubility(ies):insolubleWater solubility:insolubleSolubility(inother solvents:completely miscible Solvent: Actool completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)Auto-ignition temperature:in ot determined	Vers 4.0	sion	Revision Date: 2025/02/25		S Number: 0000000030	Date of last issue: 2024/07/12 Date of first issue: 2018/07/10			
pH::not determined substance/mixture is non-soluble (in water)Metting point/freezing point:c.a.10 °CInitial boiling point and boiling:Decomposition: Decomposes below the boiling point.Flash point:100 °CEvaporation rate:No data availableFlammability (solid, gas):No data availableFlammability (solid, gas):Voraporatioe rmixture is not classified as pyrophoric.Self-ignition:Vore explosion limit / UpperIdammability limit:Upper explosion limit not determinedVapour pressure:Vore explosion limit not determinedVapour pressure:Not data availableRelative density:Not data availableDensity:Not data availableSolubility in other solvents:Not determinedSolubility in other solvents:in solubleSolubility in other solvents:in solubleSolubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3									
pH::not determined substance/mixture is non-soluble (in water)Metting point/freezing point:c.a.10 °CInitial boiling point and boiling:Decomposition: Decomposes below the boiling point.Flash point:100 °CEvaporation rate:No data availableFlammability (solid, gas):No data availableFlammability (solid, gas):Voraporatioe rmixture is not classified as pyrophoric.Self-ignition:Vore explosion limit / UpperIdammability limit:Upper explosion limit not determinedVapour pressure:Vore explosion limit not determinedVapour pressure:Not data availableRelative density:Not data availableDensity:Not data availableSolubility in other solvents:Not determinedSolubility in other solvents:in solubleSolubility in other solvents:in solubleSolubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3.0 (25 °C)Partition coefficient: n- corrol/water:Ing Pow: 3		Odour	Threshold		No data available				
Melting point/freezing point:ca. 10 °CInitial boiling point and boiling:Decomposition: Decomposes below the boiling point. rangeFlash point:100 °C Method: ISO 3679, closed cupEvaporation rate:N odata availableFlammability (solid, gas):No data availableFlammability (liquids):Organic peroxideSelf-ignition:Upper explosion limit / Upper rot determinedLower explosion limit / Upper flammability limit:Upper explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative rolubility (ingother solvents):No data availableRelative rolubility in other solvents:No data availableSolubility in other solvents::Solubility in other solvents::Solubility in other solvents::Partition coefficient: n- cctanol/water::Partition coefficient: n- c				•					
Initial boiling point and boiling:Decomposition: Decomposes below the boiling point. rangeFlash point:100 °C Method: ISO 3679, closed cupEvaporation rate:No data availableFlammability (solid, gas):Not applicableFlammability (liquids):Organic peroxideSelf-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper:Upper explosion limit not determinedLower explosion limit / Lower:Lower explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:1.04 g/cm3 (20 °C)Solubility(lies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: Alcohol completely miscible Solvent: PithalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Melting point/freezing point		:	not determined substance/mixture is non-soluble (in water)				
range Flash point : 100 °C Method: ISO 3679, closed cup Evaporation rate : No data available Flammability (solid, gas) : Not applicable Flammability (liquids) : Organic peroxide Self-ignition : Upper explosion limit flammability limit / Upper flammability limit / Upper flammability limit / Lower explosion limit flammability limit / Lower explosion limit / Lower explosion limit flammability limit / Lower explosion limit / Lower explosion limit flammability limit / Lower explosion limit / Lower explosion limit flammability limit / Lower explosion limit / Lower explosion limit				:	ca. 10 °C				
Arrition coefficient: n- octanol/waterHethod: ISO 3679, closed cupEvaporation rate:No data availableFlammability (solid, gas):Not applicableFlammability (liquids)::Organic peroxideSelf-ignition::The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper flammability limit::Upper explosion limit not determinedLower explosion limit / Lower flammability limit:::Upper explosion limit not determinedVapour pressure:::::::Relative vapour density:::::::Density:::<				:	Decomposition: [Decomposes below the boiling point.			
Evaporation rate:Not data availableFlammability (solid, gas):Not applicableFlammability (liquids):0rganic peroxideSelf-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper:Upper explosion limitflammability limit:Upper explosion limitflammability limit::Lower explosion limitflammability limit::Lower explosion limitflammability limit:::Course explosion limitflammability limit::::Vapour pressure::::Relative vapour density::::Density::::Solubility(ies)::::Water solubility::::Solubility in other solvents:::Solubility in other solvents:::Solubility in other solvents:::Partition coefficient: n- octanol/water:::Solubility in other solvents:::Solubility in other solvents:::Solvent: Phthalates:::Solvent: Phthalates::Solvent: Phthalates::Solvent: Phthalates::Solvent: Phthalates <td:< td="">:Solvent: Phthalates:Solvent: Phthal</td:<>		Flash p	point	:	100 °C				
Flammability (solid, gas):Not applicableFlammability (liquids):Organic peroxideSelf-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper flammability limit:Upper explosion limit not determinedLower explosion limit / Lower flammability limit::Vapour pressure::Cower explosion limit not determinedRelative vapour density::No data availableDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility::Solubility in other solvents::Solubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- octanol/water:!Partition coefficient: n- octanol/water:!					Method: ISO 367	'9, closed cup			
Flammability (liquids):Organic peroxideSelf-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper flammability limit:Upper explosion limit not determinedLower explosion limit / Lower flammability limit:Lower explosion limit not determinedVapour pressure::Lower explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: Alcohol completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Evapor	ration rate	:	No data available	9			
Self-ignition:The substance or mixture is not classified as pyrophoric.Upper explosion limit / Upper flammability limit:Upper explosion limit not determinedLower explosion limit / Lower flammability limit:Lower explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: AlcoholSolubility in other solvents:completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Flamm	ability (solid, gas)	:	Not applicable				
Upper explosion limit / Upper:Upper explosion limit not determinedLower explosion limit / Lower:Lower explosion limit not determinedVapour pressure::Lower explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: Alcohol completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Flamm	ability (liquids)	:	Organic peroxide)			
flammability limitnot determinedLower explosion limit / Lower flammability limit:Lower explosion limit not determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: Alcohol completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Self-ig	nition	:	The substance or mixture is not classified as pyrophoric.				
flammability limitnot determinedVapour pressure:0.003 hPa (20 °C)Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies):insolubleVater solubility:insolubleSolubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)				:					
Relative vapour density:No data availableRelative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: Alcohol completely miscible Solvent: PhthalatesPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)				:					
Relative density:not determinedDensity:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Vapou	r pressure	:	0.003 hPa (20 °C)				
Density:1.04 g/cm3 (20 °C)Solubility(ies) Water solubility:insolubleSolubility in other solvents:completely miscible Solvent: AlcoholPartition coefficient: n- octanol/water:log Pow: 3.0 (25 °C)		Relativ	e vapour density	:	No data available				
Solubility(ies) : insoluble Solubility in other solvents : completely miscible Solvent: Alcohol completely miscible Solvent: Phthalates : log Pow: 3.0 (25 °C) Octanol/water : log Pow: 3.0 (25 °C)		Relativ	e density	:	not determined				
Water solubility : insoluble Solubility in other solvents : completely miscible Solvent: Alcohol completely miscible Solvent: Phthalates : log Pow: 3.0 (25 °C) Octanol/water : log Pow: 3.0 (25 °C)		Density	¢	:	1.04 g/cm3 (20 °	C)			
Solvent: Alcohol completely miscible Solvent: Phthalates Partition coefficient: n- octanol/water				:	insoluble				
Solvent: Phthalates Partition coefficient: n- : log Pow: 3.0 (25 °C) octanol/water		Sol	ubility in other solvents	:		ble			
octanol/water									
Auto-ignition temperature : not determined				:	log Pow: 3.0 (25	°C)			
		Auto-ig	nition temperature	:	not determined				

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	Accelerating decomposi- emperature (SADT)	:	temperature at w	: H.4 erating Decomposition Temperature. Lowest hich the tested package size will undergo a decomposition reaction.
	Viscosity Viscosity, dynamic		8 mPa.s (20 °C)	
Vi	scosity, kinematic	:	not determined	
Explo	sive properties	:	Not explosive In air mixture.	use, may form flammable/explosive vapour-
Oxidi	zing properties	:	The substance of Organic peroxide	r mixture is not classified as oxidizing.
Self-ł	neating substances	:	The substance of	r mixture is not classified as self heating.
Refra	ctive index	:	1.499 (20 °C)	

10. STABILITY AND REACTIVITY

Reactivity		Stable under recommended storage conditions. Heating may cause a fire or explosion.
Chemical stability :		Stable under recommended storage conditions.
Possibility of hazardous reac- tions		Vapours may form explosive mixture with air.
Conditions to avoid	:	Protect from contamination. Contact with incompatible substances can cause decomposi- tion 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



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11. TOXICOLOGICAL INFORMATION

Acute toxicity		
Harmful if inhaled.		
Product:		
Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes Assessment: The substance or mixture has no acute oral tox- icity
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1.01 - 4.9 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 436 GLP: yes Assessment: The component/mixture is moderately toxic after short term inhalation.
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Assessment: The substance or mixture has no acute dermal toxicity
Components:		
tert-Butyl perbenzoate:		
Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes Assessment: The substance or mixture has no acute oral tox- icity
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1.01 - 4.9 mg/l Exposure time: 4 h Test atmosphere: dust/mist
		Method: OECD Test Guideline 436 GLP: yes Assessment: The component/mixture is moderately toxic after short term inhalation.



ersion .0						
	corrosion/irritation es skin irritation.					
Prod	uct:					
Spec Methe Resu	od	: Rabbit : OECD Te : Skin irritat	st Guideline 404 ion			
Rema	arks	: May cause	e skin irritation in susceptible persons.			
Com	ponents:					
tert-E	Butyl perbenzoate:					
Spec Metho Resu	od		Rabbit OECD Test Guideline 404 Skin irritation			
	ous eye damage/eye ir es eye irritation.	ritation				
	-					
Prod Spec Resu Methe	ies It	: Rabbit : No eye irr : OECD Te	tation at Guideline 405			
Rema	arks	: Vapours n and the sk	nay cause irritation to the eyes, respiratory system in.			
Com	ponents:					
tert-E	Butyl perbenzoate:					
Spec		: Rabbit				
Resu Meth		: No eye irri : OECD Te	tation st Guideline 405			
Resp	iratory or skin sensiti	sation				
Skin	sensitisation					
Mayo	cause an allergic skin re	eaction.				
Resp	iratory sensitisation					
Not c	lassified due to lack of	data.				
Prod	uct:					

Species Method Result	 Mouse OECD Test Guideline 429 May cause sensitisation by skin contact.
Remarks	: Causes sensitisation.



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tert Spe Met	<u>Components:</u> tert-Butyl perbenzoate: Species Method Result		Mouse OECD Test Guideline 429 May cause sensitisation by skin contact.					
Not	m cell mutagenicity classified due to lack of a	data.						
	duct: notoxicity in vitro	:		erial reverse mutation assay (AMES) Fest Guideline 471				
			Test Type: In vitro mammalian cell gene mutation te Method: OECD Test Guideline 476 Result: positive					
				mosome aberration test in vitro Test Guideline 473				
Ger	Genotoxicity in vivo		Test Type: In vivo micronucleus test Species: Mouse (male and female) Application Route: Oral Method: OECD Test Guideline 474 Result: negative					
<u>Cor</u>	nponents:							
	-Butyl perbenzoate: notoxicity in vitro	:		erial reverse mutation assay (AMES) Test Guideline 471				
				ro mammalian cell gene mutation test Test Guideline 476				
				mosome aberration test in vitro Test Guideline 473				
Ger	notoxicity in vivo	:	Species: Mouse Application Rout	o micronucleus test (male and female) e: Oral Fest Guideline 474				



rsion)	Revision Date: 2025/02/25	SDS Number: 600000000030	Date of last issue: 2024/07/12 Date of first issue: 2018/07/10				
	nogenicity assified due to lack o	of data.					
Produ	uct:						
Remarks		: No data avail	No data available				
Com	oonents:						
tert-B	Sutyl perbenzoate:						
Rema	arks	: No data avail	able				
•	oductive toxicity assified due to lack of	of data.					
Produ	uct:						
Effect	s on fertility	Application R Dose: 0 100, General Toxi General Toxi	, male and female oute: Oral 300, 750, 1000 milligram per kilogram city - Parent: NOAEL: 300 mg/kg bw/day city F1: NOAEL: 300 mg/kg bw/day CD Test Guideline 421				
<u>Com</u>	oonents:						
tert-B	Butyl perbenzoate:						
Effect	s on fertility	Application R Dose: 0 100, General Toxi General Toxi	, male and female coute: Oral 300, 750, 1000 milligram per kilogram city - Parent: NOAEL: 300 mg/kg bw/day city F1: NOAEL: 300 mg/kg bw/day CD Test Guideline 421				
	- single exposure						
	assified due to lack of	of data.					
Produ		Net also all					
Rema	arks	: Not classified ficient for clas	I due to data which are conclusive although ins ssification.				
<u>Com</u>	oonents:						
tert-B	Butyl perbenzoate:						
Rema			I due to data which are conclusive although ins				



sion	Revision Date: 2025/02/25	SDS Number: 600000000030	Date of last issue: 2024/07/12 Date of first issue: 2018/07/10				
							
	- repeated exposu	re he classification criter	in are not mot				
		ne classification criter	la are not met.				
<u>Product:</u> Assessment			: The substance or mixture is not classified as specific targe organ toxicant, repeated exposure.				
<u>Com</u>	oonents:						
tert-B	Butyl perbenzoate:						
Asses	ssment		e or mixture is not classified as specific targe t, repeated exposure.				
Repe	ated dose toxicity						
Produ	uct:						
		: Rat, male and : 30 mg/kg : Oral : 90 d	: Oral				
<u>Com</u>	oonents:						
tert-B	Butyl perbenzoate:						
Speci NOAE Applic	es	: Rat, male and : 30 mg/kg : Oral : 90 d	: Oral				
Aspir	ation toxicity						
Based	d on available data, t	he classification criter	ia are not met.				
<u>Produ</u> No as	uct: spiration toxicity class	sification					
<u>Com</u>	oonents:						
	Butyl perbenzoate: spiration toxicity class	ification					
Furth	er information						
<u>Produ</u>	uct:						
Rema		: No data avail	able				



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12. ECOLOGICAL INFORMATION

Ecotoxicity	
<u>Product:</u> Toxicity to fish	LC50 (Danio rerio (zebra fish)): 1.6 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
	NOEC (Danio rerio (zebra fish)): 0.72 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	EC50 (Daphnia magna (Water flea)): 11 mg/l Exposure time: 48 h Test Type: Immobilization Method: OECD Test Guideline 202 GLP: yes
	NOEC (Daphnia magna (Water flea)): 7.7 mg/l Exposure time: 48 h Test Type: Immobilization Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	EC10 (Pseudokirchneriella subcapitata (green algae)): 0.44 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.8 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
	NOEC (Pseudokirchneriella subcapitata (green algae)): 0.72 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
Toxicity to daphnia and other	EC10 (Daphnia magna (Water flea)): 0.49 mg/l



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	aquatic invertebrates (Chron- ic toxicity)			End point: reprodu Exposure time: 21 Test Type: semi-s Method: OECD Te GLP: yes	d tatic test
	Toxicity	to microorganisms	:	EC50 (activated s Exposure time: 0.4 Test Type: Respir Method: OECD Te GLP: yes	5 h ation inhibition
		cicology Assessment	:	Very toxic to aqua	tic life.
	Chronic	c aquatic toxicity	:	Harmful to aquation	c life with long lasting effects.
	Compo	onents:			
	tert-Bu	tyl perbenzoate:			
	Toxicity		:	LC50 (Danio rerio Exposure time: 96 Test Type: semi-s Method: OECD Te GLP: yes	tatic test
				NOEC (Danio reri Exposure time: 96 Test Type: semi-s Method: OECD Te GLP: yes	tatic test
		v to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Test Type: Immob Method: OECD Te GLP: yes	bilization
				NOEC (Daphnia n Exposure time: 48 Test Type: Immob Method: OECD Te GLP: yes	bilization
	Toxicity plants	v to algae/aquatic	:	EC10 (Pseudokiro mg/l Exposure time: 72 Test Type: static t Method: OECD Te GLP: yes	est

according to GB/T 16483 and GB/T 17519



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				EC50 (Pseudokiro mg/l Exposure time: 72 Test Type: static t Method: OECD Te GLP: yes	est
				NOEC (Pseudokir mg/I Exposure time: 72 Test Type: static t Method: OECD Te GLP: yes	est
	-Factor ity)	(Acute aquatic tox-	:	1	
aq		o daphnia and other nvertebrates (Chron- ')	:	EC10 (Daphnia m End point: reprodu Exposure time: 21 Test Type: semi-s Method: OECD Te GLP: yes	d tatic test
Τc	oxicity t	o microorganisms	:	EC50 (activated s Exposure time: 0. Test Type: Respir Method: OECD Te GLP: yes	5 h ation inhibition
Ec	cotoxic	cology Assessment			
		uatic toxicity	:	Very toxic to aqua	tic life.
Cł	hronic a	aquatic toxicity	:	Harmful to aquation	c life with long lasting effects.
Pe	ersiste	nce and degradabili	ty		
	roduct: iodegra	dability	:	Result: Readily bi Method: OECD Te	odegradable. est Guideline 301D
<u>Co</u>	ompon	ents:			
	-	/l perbenzoate: dability	:	Result: Readily bi Method: OECD Te	odegradable. est Guideline 301D



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Bioa	ccumulative potential			
Com	ponents:			
Partit	Butyl perbenzoate: ion coefficient: n- ol/water	: log F	Pow: 3 (25 °	C)
	lity in soil ata available			
Othe	r adverse effects			
<u>Prod</u> Additi matio	ional ecological infor-	unpr Very	ofessional h toxic to aqu	al hazard cannot be excluded in the event of andling or disposal. latic life. tic life with long lasting effects.
3. DISPC	SAL CONSIDERATIO	NS		
Dispo	osal methods			
Wast	e from residues	The cour Do r	product sho ses or the s	ate ponds, waterways or ditches with chemi-

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

14. TRANSPORT INFORMATION

International Regulations

UNRTDG		
UN number	:	UN 3103
Proper shipping name	:	ORGANIC PEROXIDE TYPE C, LIQUID (tert-BUTYL PEROXYBENZOATE)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	5.2
Environmentally hazardous	:	yes

according to GB/T 16483 and GB/T 17519



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IATA-DGR

UN/ID No.	:	UN 3103
Proper shipping name	:	Organic peroxide type C, liquid
		(tert-Butyl peroxybenzoate)
Class	:	5.2
Packing group	:	Not assigned by regulation
Labels	:	Organic Peroxides, Keep Away From Heat
Packing instruction (cargo	:	570
aircraft)		
Packing instruction (passen-	:	570
ger aircraft)		
IMDG-Code		
UN number		UN 3103
Proper shipping name	:	ORGANIC PEROXIDE TYPE C, LIQUID
r toper snipping name	•	(tert-BUTYL PEROXYBENZOATE)
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.

National Regulations

GB 6944/12268 UN number : UN 3103 : ORGANIC PEROXIDE TYPE C, LIQUID Proper shipping name (tert-BUTYL PEROXYBENZOATE) Class 2 5.2 Packing group Not assigned by regulation : Labels 5.2 1 Marine pollutant 2 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.

15. REGULATORY INFORMATION

National regulatory information

Gefahrgruppe nach TRGS 741: lb, S+ (German regulatory requirements) Produkt unterliegt dem Sprengstoffgesetz (SprengG; Stoffgruppe C). (German regulatory requirements)

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)



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ersion .0	Revision Date: 2025/02/25				Date of last issue: 2024/07/12 Date of first issue: 2018/07/10		
No. / W7.2 Haza SAW	Orgar rdous Chemicals fo	nical name / C nic peroxides or Priority Mar		nder :	Threshold quantity 50 t Listed		
-	lations on Labou ogue of Highly Tox		-	ces where :	e Toxic Substances are Used Not listed		
and E	Export of Toxic Cl a Severely Restricted	nemicals	-		Import of Chemicals and the Impo		
Roge			(D	<u>.</u>			
-	llation on the Adn ogue and Classific				Not listed		
Catal	ogue and Classific	ation of Precu i s product ar	ırsor Chemic e reported i	cals : i n the fol l			
Catale The c	ogue and Classific components of the (TW)	ation of Precu i s product ar : On	irsor Chemic e reported i the invento	cals : i n the fol l ry, or in c	Not listed		
Catale The c	ogue and Classific components of the (TW) A (US)	ation of Precu i s product ar : On : All	irsor Chemic e reported i the invento substances	cals : i n the fol l ry, or in c listed as	Not listed lowing inventories: ompliance with the inventory		
Catale The c TCSI TSCA	ogue and Classific components of the (TW) (US) (AU)	ation of Precu i s product ar : On : All : On	e reported in the invento substances the invento	cals : i n the fol l ry, or in c listed as ry, or in c	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory		
Catale The c TCSI TSCA AllC (ogue and Classific components of the (TW) ((US) (AU) (CA)	ation of Precu i s product ar : On : All : All : All	irsor Chemic e reported i the invento substances the invento components	cals : i n the fol l ry, or in c listed as ry, or in c s of this p	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory ompliance with the inventory		
Catale The c TCSI TSCA AIIC (DSL (ogue and Classific components of the (TW) (US) (AU) (CA) S (JP)	ation of Precu i s product ar : On : All : On : All	e reported i the invento substances the invento components the invento	cals : in the foll ry, or in c listed as ry, or in c s of this p ry, or in c	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory ompliance with the inventory roduct are on the Canadian DSL		
Catale The c TCSI TSCA AIIC (DSL (ENCS	ogue and Classific components of the (TW) (US) (AU) (CA) S (JP) (JP)	ation of Precu is product ar : On : All : On : All : On : On	e reported i the invento substances the invento components the invento the invento	cals : in the foll ry, or in c listed as ry, or in c s of this p ry, or in c ry, or in c	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory ompliance with the inventory roduct are on the Canadian DSL ompliance with the inventory		
Catale The c TCSI TSCA AIIC (DSL (ENCS ISHL KECI	ogue and Classific components of the (TW) (US) (AU) (CA) S (JP) (JP)	ation of Precu is product ar : On : All : On : All : On : On	e reported i the invento substances the invento components the invento the invento the invento	cals : in the foll ry, or in c listed as ry, or in c s of this p ry, or in c ry, or in c ry, or in c	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory ompliance with the inventory roduct are on the Canadian DSL ompliance with the inventory ompliance with the inventory		
Catale The c TCSI TSCA AIIC (DSL (ENCS ISHL KECI PICC	ogue and Classific components of the (TW) (US) (AU) (CA) S (JP) (JP) (KR)	ation of Precu is product ar : On : All : On : On : On : On	e reported i the invento substances the invento components the invento the invento the invento the invento the invento	cals : in the foll ry, or in c listed as ry, or in c s of this p ry, or in c ry, or in c ry, or in c ry, or in c	Not listed lowing inventories: ompliance with the inventory active on the TSCA inventory ompliance with the inventory roduct are on the Canadian DSL ompliance with the inventory ompliance with the inventory		

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Further information	
Other information	: This safety datasheet only contains information

: This safety datasheet only contains information relating to safety and does not replace any product information or prod-

according to GB/T 16483 and GB/T 17519



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			uct 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 con- tainer.		
С	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 Agen- cy, http://echa.europa.eu/		
C	Date format	:	yyyy/mm/dd		

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

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



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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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