

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

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

1.1 Product identifier

Trade name : TRIGONOX 42S

REACH Registration Number : 01-2119498308-25-0003

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

EC-No. : 236-050-7

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

Use of the Substance/Mixture : Polymerization initiator

1.3 Details of the supplier of the safety data sheet

Company : Nouryon Functional Chemicals B.V.
Haaksbergweg 88
NL 1101 BZ Amsterdam
Netherlands

Telephone : +31889840367

E-mail address of person responsible for the SDS : polymer.emeia@nouryon.com

1.4 Emergency telephone number

Emergency telephone number : 24 hours:+31 57 06 79211, US-CHEMTREC:1-800-424-9300,
CA-CANUTEC:1-613-996-6666, JP: +81 (836) 74 8810, CN:
化学事故应急咨询电话 : +86 532 8388 9090

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification REGULATION (EC) No 1272/2008

Organic peroxides, Type D	H242: Heating may cause a fire.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Short-term (acute) aquatic hazard,	H400: Very toxic to aquatic life.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Category 1

Long-term (chronic) aquatic hazard,
Category 1

H410: Very 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 :
 H242 Heating may cause a fire.
 H317 May cause an allergic skin reaction.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P234 Keep only in original packaging.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:
 P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
 P391 Collect spillage.

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

SECTION 3: Composition/information on ingredients

3.1 Substances

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

EC-No. : 236-050-7

Synonyms : tert-butyl 3,5,5-trimethylperoxyhexanoate

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
tert-Butyl peroxy-3,5,5-trimethylhexanoate	13122-18-4 236-050-7	>= 97 - <= 100	M-Factor (Acute aquatic toxicity): 1
tert-Butyl hydroperoxide	75-91-2 200-915-7	<= 0,05	Acute toxicity estimate Acute oral toxicity: 560 mg/kg Acute inhalation toxicity (vapour): 0,84 mg/l Acute dermal toxicity: 440 mg/kg

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.

If inhaled : If breathed in, move person into fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
If skin irritation persists, call a physician.

In case of eye contact : Rinse with plenty of water.
Remove contact lenses.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Risks : May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : CAUTION: reignition may occur.
Supports combustion.
Do not use a solid water stream as it may scatter and spread fire.
Water spray may be ineffective unless used by experienced firefighters.
Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous decomposition products formed under fire conditions.

Hazardous combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Use water spray to cool unopened 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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Wear respiratory protection.
Ensure adequate ventilation.
Remove all sources of ignition.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Evacuate personnel to safe areas.
Only qualified personnel equipped with suitable protective equipment may intervene.
Prevent unauthorised persons entering the zone.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material and dispose of as hazardous waste.
Use only inert inorganic material such as vermiculite or perlite as absorbent.
Keep mixture of absorbent material and spilled product wetted with water.
Confinement must be avoided.
Never return spills in original containers for re-use.

6.4 Reference to other sections

For disposal considerations see section 13.
For personal protection see section 8.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : For personal protection see section 8.
Avoid formation of aerosol.
Do not breathe vapours or spray mist.
Avoid contact with skin.
Smoking, eating and drinking should be prohibited in the application area.
Open drum carefully as content may be under pressure.
Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Use explosion protected equipment. Keep away from sources of ignition - No smoking. No sparking tools should be used.
Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers, metal soaps). Do not cut or weld on or near this container even when empty. Keep away from combustible material.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
Wash contaminated clothing before re-use.
- Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : No smoking. Electrical installations / working materials must comply with the technological safety standards. Keep only in original container. Store away from other materials.
- Further information on storage stability : If product freezes or separates, contact the manufacturer.

Maximum storage temperature is for quality only.
- Minimum storage temperature: : Avoid temperatures below:
-20 °C
- Maximum storage temperature: : 25 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version 2.0 Revision Date: 25.07.2023 HR / EN Date of last issue: 03.04.2023
Date of first issue: 06.03.2018

7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
tert-Butanol	75-65-0	GVI	100 ppm 308 mg/m ³	HR OEL
		STEL	150 ppm 462 mg/m ³	HR OEL
Acetone	67-64-1	TWA	500 ppm 1.210 mg/m ³	2000/39/EC
		Further information: Indicative		
		GVI	500 ppm 1.210 mg/m ³	HR OEL
Further information: 2000/39/EU				
Carbon dioxide	124-38-9	TWA	5.000 ppm 9.000 mg/m ³	2006/15/EC
		Further information: Indicative		
		GVI	5.000 ppm 9.000 mg/m ³	HR OEL
Further information: 2006/15/EU				

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

Substance name	End Use	Exposure routes	Potential health effects	Value
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Workers	Inhalation	Long-term systemic effects	1,46 mg/m ³
		Skin contact	Long-term systemic effects	0,83 mg/kg
	Consumers	Ingestion	Long-term systemic effects	0,20 mg/kg
		Skin contact	Long-term systemic effects	0,41 mg/kg
		Inhalation	Long-term systemic effects	0,31 mg/m ³

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version
2.0

Revision Date:
25.07.2023

HR / EN

Date of last issue: 03.04.2023

Date of first issue: 06.03.2018

tert-Butyl hydroperoxide	Workers	Inhalation	Long-term systemic effects	3,08 mg/m ³
	Workers	Inhalation	Acute systemic effects	10,37 mg/m ³
	Workers	Inhalation	Long-term local effects	3,69 mg/m ³
	Workers	Inhalation	Acute local effects	21,34 mg/m ³
	Workers	Dermal	Long-term systemic effects	12,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,91 mg/m ³
	Consumers	Inhalation	Acute systemic effects	3,22 mg/m ³
	Consumers	Inhalation	Long-term local effects	0,75 mg/m ³
	Consumers	Inhalation	Acute local effects	12,81 mg/m ³
	Consumers	Dermal	Long-term systemic effects	7,5 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,26 mg/kg bw/day

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

Substance name	Environmental Compartment	Value	
tert-Butyl peroxy-3,5,5-trimethylhexanoate	Fresh water	0,000510 mg/l	
	Intermittent water	0,00510 mg/l	
	Marine water	0,000051 mg/l	
	Oral	3,33 mg/kg food	
	Fresh water sediment	0,0563 mg/kg dry weight	
	Marine sediment	0,00563 mg/kg dry weight	
	Sewage treatment plant	2,6 mg/l	
	Soil	0,0456 mg/kg dry weight	
	tert-Butyl hydroperoxide	Fresh water	0,002 mg/l
		Marine water	0 mg/l
Intermittent water		0,015 mg/l	
Sewage treatment plant		0,17 mg/l	
Fresh water sediment		0,006 mg/kg dry weight	
Marine sediment		0,001 mg/kg dry weight	
Soil		0,166 mg/kg dry weight	

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version 2.0	Revision Date: 25.07.2023	HR / EN	Date of last issue: 03.04.2023 Date of first issue: 06.03.2018
----------------	------------------------------	---------	---

	Secondary Poisoning	1,4 mg/kg food
--	---------------------	----------------

8.2 Exposure controls

Engineering measures

Explosion proof ventilation recommended.
Effective exhaust ventilation system

Personal protective equipment

Eye/face protection : Tightly fitting safety goggles

Hand protection
Material : Neoprene
Material : Nitrile rubber

Skin and body protection : Protective suit

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.
Filter A

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : colourless

Odour : characteristic

Odour Threshold : No data available

Melting point : <= -20 °C

Boiling point/boiling range : Decomposes below the boiling point.

Upper explosion limit / Upper flammability limit : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	Above the SADT value
Auto-ignition temperature	:	Test method not applicable
Decomposition temperature	:	SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	:	55 °C
pH	:	Weakly acidic
Viscosity		
Viscosity, dynamic	:	5 mPa.s (20 °C)
Viscosity, kinematic	:	5,56 mm ² /s (20 °C)
Solubility(ies)		
Water solubility	:	(20 °C) immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: 5,16 (20 °C)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Vapour pressure : 0,5 hPa (59 °C)

Relative density : 0,900 (20 °C)

Bulk density : Not applicable

Relative vapour density : No data available

9.2 Other information

Explosives : Not explosive

Oxidizing properties : Not classified as oxidising.

Flammability (liquids) : Decomposition products may be flammable.

Evaporation rate : No data available

Active Oxygen Content : 6,74 %

Organic peroxides : > 97 %

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under normal conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : Confinement must be avoided.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Contact with the following incompatible materials will result in hazardous decomposition:

- Acids and bases
- Iron
- Copper
- Reducing agents
- Heavy metals
- Rust

Do not mix with peroxide accelerators, unless under controlled processing.
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.
For queries regarding the suitability of other materials please contact the supplier.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

Hazardous decomposition products : tert-Butanol
Acetone
Methane
2-tert-Butoxy-2,4,4-trimethylpentane
Carbon dioxide
2,2,4-Trimethylpentane

Thermal decomposition : SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the SADT. Contact with incompatible substances can cause decomposition below the SADT.

Self-Accelerating decomposition temperature (SADT) : 55 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

SECTION 11: Toxicological information

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

Acute toxicity

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Acute oral toxicity	:	LD50 (Rat): 12.905 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 800 mg/m ³ Exposure time: 4 h Remarks: Saturated vapour concentration
Acute dermal toxicity	:	LD50 (Rat): > 2.000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

tert-Butyl hydroperoxide:

Acute oral toxicity	:	LD50 (Rat, male and female): 560 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): 1,85 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
		LC50 (Rat, male): 0,84 mg/l Exposure time: 4 h Test atmosphere: vapour Method: OECD Test Guideline 403 GLP: yes
Acute dermal toxicity	:	LD50 (Rabbit, male and female): 440 mg/kg Method: OECD Test Guideline 402 GLP: yes

Skin corrosion/irritation

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Result : No skin irritation

tert-Butyl hydroperoxide:

Species : Rabbit
Result : Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Result : No eye irritation

tert-Butyl hydroperoxide:

Species : Rabbit
Result : Risk of serious damage to eyes.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Assessment : May cause sensitisation by skin contact.

tert-Butyl hydroperoxide:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : The product is a skin sensitiser, sub-category 1A.
GLP : yes

Germ cell mutagenicity

Not classified due to lack of data.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Genotoxicity in vitro : Result: No evidence of genotoxic effects in vitro.

Genotoxicity in vivo : Test Type: in vivo assay
Method: OECD Test Guideline 474
Result: negative

tert-Butyl hydroperoxide:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
GLP: yes

Test Type: In vitro gene mutation study in mammalian cells
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.17
Result: positive
GLP: yes

Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: Metabolic activation
Method: Regulation (EC) No. 440/2008, Annex, B.13/14
(Ames test)
Result: positive
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Intravenous
Method: Regulation (EC) No. 440/2008, Annex, B.12
Result: negative
GLP: yes

Test Type: dominant lethal test
Species: Mouse (male)
Application Route: Intraperitoneal
Method: Regulation (EC) No. 440/2008, Annex, B.22
Result: positive
GLP: no

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Test Type: In vivo mammalian alkaline comet assay
Species: Rat (male)
Application Route: Inhalation
Method: OECD Test Guideline 489
Result: negative
GLP: yes

Germ cell mutagenicity-
Assessment : In vitro tests showed mutagenic effects which were not
observed with in vivo test.

Carcinogenicity

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Remarks : No data available

tert-Butyl hydroperoxide:

Species : Rat, male and female
Application Route : inhalation (vapour)
Method : OECD Test Guideline 451
GLP : yes

Carcinogenicity -
Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Effects on fertility : Species: Rat, females
Strain: wistar
Application Route: Oral
Dose: 0 50, 160, 500 milligram per kilogram
General Toxicity - Parent: NOAEL: 50 mg/kg bw/day
General Toxicity F1: NOAEL F1: 50 mg/kg bw/day
Fertility: NOAEL Parent: 50 mg/kg bw/day
Method: OECD Test Guideline 421

Species: Rat, males
Strain: wistar

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Application Route: Oral
Dose: 0 50, 160, 500 milligram per kilogram
General Toxicity - Parent: NOAEL: 50 mg/kg bw/day
General Toxicity F1: NOAEL F1: 50 mg/kg bw/day
Fertility: NOAEL Parent: 400 mg/kg bw/day
Method: OECD Test Guideline 421

tert-Butyl hydroperoxide:

Effects on foetal development : Species: Rat
Strain: wistar
Application Route: Oral
General Toxicity Maternal: NOAEL: 35 mg/kg bw/day
Method: OECD Test Guideline 414
GLP: yes

STOT - single exposure

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Exposure routes : Inhalation
Target Organs : Respiratory system
Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

tert-Butyl hydroperoxide:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Species : Rat

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

NOAEL : 50 mg/kg
Application Route : Oral
Exposure time : 28 d

tert-Butyl hydroperoxide:

Species : Rat, male and female
NOAEL : 21 mg/kg bw/day
Application Route : Oral
Method : OECD Test Guideline 422
GLP : yes

Species : Rat, male and female
NOAEL : 22,2 mg/m³
Application Route : Inhalation
Test atmosphere : vapour
Method : OECD Test Guideline 412
GLP : yes

Species : Rat, male and female
NOAEC : 22,2 mg/m³
Application Route : Inhalation
Test atmosphere : vapour
Method : OECD Test Guideline 413
GLP : yes

Aspiration toxicity

Not classified due to lack of data.

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

No aspiration toxicity classification

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

Further information

Product:

Remarks : No further data available.

SECTION 12: Ecological information

12.1 Toxicity

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Toxicity to fish	:	LC50 : 7,0 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,5098 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0,125 mg/l Exposure time: 72 h Test Type: Growth inhibition Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	NOEC (activated sludge): 26,3 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: Domestic OECD Guideline 209

Ecotoxicology Assessment

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

tert-Butyl hydroperoxide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 29,61 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 14,07 mg/l
aquatic invertebrates : Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,47
plants : mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,22
mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

12.2 Persistence and degradability

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Biodegradability : Result: Inherently biodegradable.
Method: Closed Bottle test

tert-Butyl hydroperoxide:

Biodegradability : Test Type: Ready biodegradability
Inoculum: activated sludge, non-adapted
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

12.3 Bioaccumulative potential

Components:

tert-Butyl peroxy-3,5,5-trimethylhexanoate:

Bioaccumulation : Remarks: No bioaccumulation is expected.

Partition coefficient: n-octanol/water : log Pow: 5,16 (20 °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.

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

chemical or used container.
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not burn, or use a cutting torch on, the empty drum.
Due to the high risk of contamination recycling/recovery is not recommended.
Follow all warnings even after the container is emptied.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 3105
ADR	: UN 3105
RID	: UN 3105
IMDG	: UN 3105
IATA	: UN 3105

14.2 UN proper shipping name

ADN	: ORGANIC PEROXIDE TYPE D, LIQUID (tert-Butyl peroxy-3,5,5-trimethylhexanoate, 95%)
ADR	: ORGANIC PEROXIDE TYPE D, LIQUID (tert-Butyl peroxy-3,5,5-trimethylhexanoate, 95%)
RID	: ORGANIC PEROXIDE TYPE D, LIQUID (tert-Butyl peroxy-3,5,5-trimethylhexanoate, 95%)
IMDG	: ORGANIC PEROXIDE TYPE D, LIQUID (tert-Butyl peroxy-3,5,5-trimethylhexanoate, 95%, tert-Butyl peroxy-3,5,5-trimethylhexanoate)
IATA	: Organic peroxide type D, liquid (tert-Butyl peroxy-3,5,5-trimethylhexanoate, 95%)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 5.2	
ADR	: 5.2	
RID	: 5.2	

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

IMDG : 5.2
IATA : 5.2 HEAT

14.4 Packing group

ADN

Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2

ADR

Packing group : Not assigned by regulation
Classification Code : P1
Labels : 5.2
Tunnel restriction code : (D)

RID

Packing group : Not assigned by regulation
Classification Code : P1
Hazard Identification Number : 539
Labels : 5.2

IMDG

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

IATA (Cargo)

Packing instruction (cargo aircraft) : 570
Packing group : Not assigned by regulation
Labels : Organic Peroxides, Keep Away From Heat

IATA (Passenger)

Packing instruction (passenger aircraft) : 570
Packing group : Not assigned by regulation
Labels : Organic Peroxides, Keep Away From Heat

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only. 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, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

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

P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

E1 ENVIRONMENTAL HAZARDS

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

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	On the inventory, or in compliance with the inventory

15.2 Chemical safety assessment

tert-Butyl peroxy-3,5,5-trimethylhexanoate	:	A Chemical Safety Assessment has been carried out for this substance.
tert-Butyl hydroperoxide	:	A Chemical Safety Assessment has been carried out for this substance.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

SECTION 16: Other information

Full text of other abbreviations

2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	:	Europe. Indicative occupational exposure limit values
HR OEL	:	Croatia. Regulations on limit values for exposure to hazardous substances at work and on the biological limit values.
2000/39/EC / TWA	:	Limit Value - eight hours
2006/15/EC / TWA	:	Limit Value - eight hours
HR OEL / STEL	:	Short term exposure limit
HR OEL / GVI	:	time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878

TRIGONOX 42S

Version	Revision Date:	HR / EN	Date of last issue: 03.04.2023
2.0	25.07.2023		Date of first issue: 06.03.2018

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

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

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.

HR / EN