

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

SECTION 1. IDENTIFICATION

Trade name : NOROX®TBPB
Other means of identification : No data available
CAS-No. : 614-45-9

Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street
Elyria OH 44035 USA

United Initiators Canada Ltd.
2147 PG Pulp Mill Road
Prince George, BC-V2N 2S6 CANADA

Telephone : +1-440-323-3112

Telefax : +1-440-323-2659

Emergency telephone : CHEMTREC US (24h): +1-800-424-9300
CHEMTREC WORLD (24h): +1-703-527-3887
CANUTEC (24h): 1-613-996-6666

For Transportation Incidents : GFL Environmental Inc. (24h):
1-800-567-7455

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

Recommended use of the chemical and restrictions on use

Recommended use : polymerization initiators

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Organic peroxides : Type C

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

Skin sensitization : Category 1

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H242 Heating may cause a fire.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H400 Very toxic to aquatic life.
H412 Harmful 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.
P240 Ground and bond container and receiving equipment.
P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
P391 Collect spillage.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

Storage:

P403 Store in a well-ventilated place.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding 40 °C/ 104 °F.
P420 Store separately.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Chemical nature : Organic Peroxide liquid
Substance name : tert-Butyl perbenzoate
CAS-No. : 614-45-9
Common Name/Synonym : No data available

Components

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

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Take off contaminated clothing and shoes immediately.
Call a physician immediately.
Never give anything by mouth to an unconscious person.
If unconscious, place in recovery position and seek medical advice.
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
Symptoms of poisoning may appear several hours later.

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

- If breathed in, move person into fresh air.
If not breathing, give artificial respiration.
Call a physician or poison control center immediately.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
- In case of skin contact : If symptoms persist, call a physician.
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Wash contaminated clothing before re-use.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Call a physician immediately.
Rinse mouth thoroughly with water.
Keep respiratory tract clear.
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Causes skin irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
sensitizing effects
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- Notes to physician : Treat symptomatically and supportively.
-

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray jet
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Risk of explosion if heated under confinement.
Possible emission of gaseous decomposition products may
-

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

lead to a dangerous pressure build-up.
Avoid confinement.
Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite.

The product burns violently.
Flash back possible over considerable distance.
Do not allow run-off from fire fighting to enter drains or water courses.
Vapors may form explosive mixtures with air.
The product will float on water and can be reignited on surface water.
Cool closed containers exposed to fire with water spray.

Specific extinguishing 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 : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use a water spray to cool fully closed containers.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions : Prevent product from entering drains.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.
Clear spills immediately.
Suppress (knock down) gases/vapors/mists with a water spray jet.
To clean the floor and all objects contaminated by this material, use plenty of water.
Soak up with inert absorbent material.
Isolate waste and do not reuse.
Non-sparking tools should be used.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

SECTION 7. HANDLING AND STORAGE

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

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

Advice on safe handling : Open drum carefully as content may be under pressure.
Protect from contamination.
Do not swallow.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
Avoid formation of aerosol.
Take precautionary measures against static discharges.
Never return any product to the container from which it was originally removed.
Provide sufficient air exchange and/or exhaust in work rooms.
Avoid confinement.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Smoking, eating and drinking should be prohibited in the application area.
Wash thoroughly after handling.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

For personal protection see section 8.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

- Conditions for safe storage : Store in original container.
Keep containers tightly closed in a cool, well-ventilated place.
Store in cool place.
Keep in a well-ventilated place.
Contamination may result in dangerous pressure increases - closed containers may rupture.
Observe label precautions.
Store in accordance with the particular national regulations.
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.
Electrical installations / working materials must comply with the technological safety standards.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Materials to avoid : Keep away from combustible materials.
Keep away from strong acids, bases, heavy metal salts and other reducing substances.
- Recommended storage temperature : 10 - 40 °C
- Further information on storage stability : Stable under recommended storage conditions.
-

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Minimize workplace exposure concentrations.

Personal protective equipment

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

Filter type : ABEK-filter

Use NIOSH approved respiratory protection.

Hand protection

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

- Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.
Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Wear as appropriate:
Flame retardant antistatic protective clothing.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures : Avoid contact with skin, eyes and clothing.
Keep away from food and drink.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : light yellow
- Odor : ester-like

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX[®]TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

Odor Threshold	:	No data available
pH	:	not determined substance/mixture is non-soluble (in water)
Melting point/freezing point	:	ca. 10 °C
Initial boiling point and boiling range	:	Decomposition: Decomposes below the boiling point.
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	:	The substance or mixture is not classified as pyrophoric.
Upper explosion limit / Upper flammability limit	:	Upper explosion limit not determined
Lower explosion limit / Lower flammability limit	:	Lower explosion limit not determined
Vapor pressure	:	0.003 hPa (20 °C)
Relative vapor density	:	No data available
Relative density	:	not determined
Density	:	1.04 g/cm ³ (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	completely miscible Solvent: Alcohol completely miscible Solvent: Phthalates
Partition coefficient: n-octanol/water	:	log Pow: 3.0 (25 °C)
Autoignition temperature	:	not determined

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

Decomposition

Self-Accelerating decomposition temperature (SADT) : 60 °C
Method: UN-Test H.4
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

Viscosity

Viscosity, dynamic : 8 mPa.s (20 °C)

Viscosity, kinematic : not determined

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

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

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

Refractive index : 1.499 (20 °C)

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.
Heating may cause a fire or explosion.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Vapors may form explosive mixture with air.

Conditions to avoid : Protect from contamination.
Contact with incompatible substances can cause decomposition at or below SADT.
Heat, flames and sparks.
Avoid confinement.

Incompatible materials : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

Hazardous decomposition products : Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

SECTION 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 toxicity

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 toxicity

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

Skin corrosion/irritation

Causes skin irritation.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Remarks : May cause skin irritation in susceptible persons.

Components:

tert-Butyl perbenzoate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Serious eye damage/eye irritation

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

Product:

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

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

Components:

tert-Butyl perbenzoate:

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

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified due to lack of data.

Product:

Species : Mouse
Method : OECD Test Guideline 429
Result : May cause sensitization by skin contact.

Remarks : Causes sensitization.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

Components:

tert-Butyl perbenzoate:

Species : Mouse
Method : OECD Test Guideline 429
Result : May cause sensitization by skin contact.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: positive

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Components:

tert-Butyl perbenzoate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: positive

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

Carcinogenicity

Not classified due to lack of data.

Product:

Remarks : No data available

Components:

tert-Butyl perbenzoate:

Remarks : No data available

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: 0 100, 300, 750, 1000 milligram per kilogram
General Toxicity Parent: NOAEL: 300 mg/kg bw/day
General Toxicity F1: NOAEL: 300 mg/kg bw/day
Method: OECD Test Guideline 421
GLP: yes

Components:

tert-Butyl perbenzoate:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: 0 100, 300, 750, 1000 milligram per kilogram
General Toxicity Parent: NOAEL: 300 mg/kg bw/day
General Toxicity F1: NOAEL: 300 mg/kg bw/day
Method: OECD Test Guideline 421
GLP: yes

STOT-single exposure

Not classified due to lack of data.

Product:

Remarks : Not classified due to data which are conclusive although insufficient for classification.

Components:

tert-Butyl perbenzoate:

Remarks : Not classified due to data which are conclusive although insufficient for classification.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

STOT-repeated exposure

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

Product:

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

Components:

tert-Butyl perbenzoate:

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

Repeated dose toxicity

Product:

Species : Rat, male and female
NOAEL : 30 mg/kg
Application Route : Oral
Exposure time : 90 d

Components:

tert-Butyl perbenzoate:

Species : Rat, male and female
NOAEL : 30 mg/kg
Application Route : Oral
Exposure time : 90 d

Aspiration toxicity

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

Product:

No aspiration toxicity classification

Components:

tert-Butyl perbenzoate:

No aspiration toxicity classification

Further information

Product:

Remarks : No data available

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

- 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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

aquatic invertebrates (Chronic toxicity) : End point: reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 43 mg/l
Exposure time: 0.5 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Components:

tert-Butyl perbenzoate:

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version 3.0 Revision Date: 02/25/2025 SDS Number: 600000000030 Date of last issue: 04/29/2024
Date of first issue: 10/24/2016

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

M-Factor (Acute aquatic toxicity) : 1

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.49 mg/l
End point: reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 43 mg/l
Exposure time: 0.5 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Persistence and degradability

Product:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D

Components:

tert-Butyl perbenzoate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301D

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

Bioaccumulative potential

Components:

tert-Butyl perbenzoate:

Partition coefficient: n-octanol/water : log Pow: 3 (25 °C)

Mobility in soil

No data available

Other adverse effects

Product:

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of wastes in an approved waste disposal facility. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Dispose of in accordance with local regulations. Clean container with water. Dispose of contents/ container to an approved waste disposal plant. Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

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 aircraft) : 570
Packing instruction (passenger aircraft) : 570

IMDG-Code

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

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

Not applicable for product as supplied.

Domestic regulation

TDG

UN number : UN 3103
Proper shipping name : ORGANIC PEROXIDE TYPE C, LIQUID
(tert-BUTYL PEROXYBENZOATE)
Class : 5.2
Packing group : II
Labels : 5.2
ERG Code : 146
Marine pollutant : yes

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

International Regulations

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

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

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

TSCA (US)	:	All substances listed as active on the TSCA inventory
AIIIC (AU)	:	On the inventory, or in compliance with the inventory
DSL (CA)	:	All components of this product are on the Canadian DSL
ENCS (JP)	:	On the inventory, or in compliance with the inventory
ISHL (JP)	:	On the inventory, or in compliance with the inventory
KECI (KR)	:	On the inventory, or in compliance with the inventory
PICCS (PH)	:	On the inventory, or in compliance with the inventory
IECSC (CN)	:	On the inventory, or in compliance with the inventory
TECI (TH)	:	On the inventory, or in compliance with the inventory

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIIC - 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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



NOROX®TBPB

Version	Revision Date:	SDS Number:	Date of last issue: 04/29/2024
3.0	02/25/2025	600000000030	Date of first issue: 10/24/2016

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; TECl - 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

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.
These safety instructions also apply to empty packaging which may still contain product residues. The hazards on the label also apply to residues in the container.

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

Revision Date : 02/25/2025
Date format : mm/dd/yyyy

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.

CA / Z8