

# SAFETY DATA SHEET

## NOROX SHP-90



Version  
1.2

Revision Date:  
04/30/2018

SDS Number:  
600000000163

Print Date:  
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### SECTION 1. IDENTIFICATION

Product name : NOROX SHP-90

#### Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street  
Elyria OH 44035

Telephone : +1-440-323-3112

Telefax : +1-440-323-2659

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

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

#### Recommended use of the chemical and restrictions on use

Recommended use : Hardener

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids : Category 4

Organic peroxides : Type D

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

Specific target organ systemic toxicity - single exposure : Category 3 (Respiratory system)

Acute aquatic toxicity : Category 2

#### GHS label elements

Hazard pictograms :



Signal Word : Danger

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Hazard Statements : H227 Combustible liquid.  
H242 Heating may cause a fire.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H401 Toxic to aquatic life.

Precautionary Statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces.  
No smoking.  
P220 Keep/Store away from clothing/ strong acids, bases,  
heavy metal salts and other reducing substances /combustible  
materials.  
P234 Keep only in original container.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing must not be allowed out of  
the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 + P312 IF INHALED: Remove person to fresh air  
and keep comfortable for breathing. Call a POISON  
CENTER/doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water  
for several minutes. Remove contact lenses, if present and easy  
to do. Continue rinsing.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/  
attention.  
P337 + P313 If eye irritation persists: Get medical advice/ atten-  
tion.  
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.

**Storage:**  
P403 + P233 Store in a well-ventilated place. Keep container  
tightly closed.  
P405 Store locked up.  
P410 Protect from sunlight.  
P411 + P235 Store at temperatures not exceeding < 100 °F/ <  
38 °C. Keep cool.  
P420 Store away from other materials.

**Disposal:**  
P501 Dispose of contents/ container to an approved waste dis-  
posal plant.

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### Other hazards

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture  
Chemical nature : Organic Peroxide  
Liquid

#### Hazardous ingredients

| Chemical name              | CAS-No.    | Concentration (% w/w) |
|----------------------------|------------|-----------------------|
| 2,4-Pentanedione, peroxide | 37187-22-7 | >= 30 - < 35          |
| Diacetone alcohol          | 123-42-2   | >= 25 - < 30          |
| Polyethylene glycol        | 25322-68-3 | >= 20 - < 25          |
| tert-Butyl perbenzoate     | 614-45-9   | >= 10 - < 15          |

### SECTION 4. FIRST AID MEASURES

General 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.  
Call a physician immediately.

If inhaled : Call a physician or poison control center immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
If breathed in, move person into fresh air.

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

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Call a physician immediately.  
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.

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May cause respiratory irritation.

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.

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### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite.

Flash back possible over considerable distance.  
Vapors may form explosive mixtures with air.  
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 : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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- considerations".
- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.  
Clear spills immediately.  
Suppress (knock down) gases/vapors/mists with a water spray jet.  
To clean the floor and all objects contaminated by this material, use plenty of water.  
Soak up with inert absorbent material.  
Isolate waste and do not reuse.  
Non-sparking tools should be used.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.
- Advice on safe handling : 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.  
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.  
Protect from contamination.

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- Conditions for safe storage : Avoid impurities (e.g. rust, dust, ash), risk of decomposition. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store in accordance with the particular national regulations.
- Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.
- Recommended storage temperature : < 38 °C  
< 100 °F

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

| Ingredients         | CAS-No.    | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis     |
|---------------------|------------|-------------------------------|--|-----------|
| Diacetone alcohol   | 123-42-2   | TWA                           | 50 ppm   | ACGIH     |
|                     |            | TWA                           | 50 ppm<br>240 mg/m <sup>3</sup>                | NIOSH REL |
|                     |            | TWA                           | 50 ppm<br>240 mg/m <sup>3</sup>                | OSHA Z-1  |
|                     |            | TWA                           | 50 ppm<br>240 mg/m <sup>3</sup>                | OSHA P0   |
| Polyethylene glycol | 25322-68-3 | TWA (aerosol)                 | 10 mg/m <sup>3</sup>                           | US WEEL   |

#### Hazardous components without workplace control parameters

| Ingredients                | CAS-No.    |
|----------------------------|------------|
| 2,4-Pentanedione, peroxide | 37187-22-7 |
| tert-Butyl perbenzoate     | 614-45-9   |

**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

#### Hand protection

Material : butyl-rubber  
Break through time : >= 480 min  
Glove thickness : 0.5 mm

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- Remarks : 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 Wash hands before breaks and at the end of workday.
- Eye protection : Tightly fitting safety goggles  
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.  
Ensure that eyewash stations and safety showers are close to the workstation location.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
- Hygiene measures : 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 : mild
- pH : Not applicable
- Melting point/range : No data available
- Boiling point/boiling range : No data available
- Flash point : 93 °C
- Evaporation rate : No data available
- Flammability (solid, gas) : Not applicable
- Self-ignition :
- Upper explosion limit : No data available
- Lower explosion limit : No data available
- Vapor pressure : No data available
- Relative vapor density : > 1
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Density : 1.1 - 1.2 g/cm<sup>3</sup>

Solubility(ies)  
Water solubility : soluble

Partition coefficient: n-octanol/water : No data available

Self-Accelerating decomposition temperature (SADT) : > 50 °C  
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

> 122 °F  
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

Viscosity  
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

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

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.

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

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Not classified based on available information.

#### **Product:**

Acute oral toxicity : Acute toxicity estimate: 4,660 mg/kg

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Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 8.42 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

### Ingredients:

#### **2,4-Pentanedione, peroxide:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): > 13.1 mg/l  
Exposure time: 1 h  
Test atmosphere: dust/mist  
Method: Expert judgment  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: Expert judgment  
Assessment: The substance or mixture has no acute dermal toxicity

#### **Diacetone alcohol:**

Acute oral toxicity : LD50 (Rat): 3,002 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC0 (Rat): >= 7.6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD0 (Rat): > 1,875 mg/kg  
Method: OECD Test Guideline 402

#### **Polyethylene glycol:**

Acute oral toxicity : LD50 (Rat): > 10,000 mg/kg

Acute dermal toxicity : Remarks: No data available

#### **tert-Butyl perbenzoate:**

Acute oral toxicity : LD0 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): 1.01 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436

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Acute dermal toxicity : LD0 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### **Skin corrosion/irritation**

Causes skin irritation.

#### **Product:**

Remarks: May cause skin irritation and/or dermatitis.

#### **Ingredients:**

##### **2,4-Pentanedione, peroxide:**

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

##### **Diacetone alcohol:**

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

##### **Polyethylene glycol:**

Result: No skin irritation

##### **tert-Butyl perbenzoate:**

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

### **Serious eye damage/eye irritation**

Causes serious eye irritation.

#### **Product:**

Remarks: May cause irreversible eye damage.

#### **Ingredients:**

##### **2,4-Pentanedione, peroxide:**

Species: Rabbit  
Result: Eye irritation  
Method: OECD Test Guideline 405

##### **Diacetone alcohol:**

Species: Rabbit  
Result: Mild eye irritation  
Method: OECD Test Guideline 405

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### **Polyethylene glycol:**

Result: No eye irritation

### **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 based on available information.

#### **Product:**

Remarks: Causes sensitization.

#### **Ingredients:**

##### **2,4-Pentanedione, peroxide:**

Test Type: Maximization Test

Routes of exposure: Skin contact

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Probability or evidence of skin sensitization in humans

Remarks: Causes sensitization.

##### **Diacetone alcohol:**

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitization.

##### **Polyethylene glycol:**

Result: Does not cause skin sensitization.

##### **tert-Butyl perbenzoate:**

Species: Mouse

Method: OECD Test Guideline 429

Result: Probability or evidence of high skin sensitization rate in humans

Remarks: May cause sensitization by skin contact.

### **Germ cell mutagenicity**

Not classified based on available information.

#### **Ingredients:**

##### **2,4-Pentanedione, peroxide:**

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

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Method: OECD Test Guideline 471

Result: positive

: Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo

: Test Type: In vivo micronucleus test

Species: Mouse (male and female)

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

### **Diacetone alcohol:**

Genotoxicity in vitro

: Method: OECD Test Guideline 476

Result: negative

: Method: OECD Test Guideline 471

Result: negative

: Method: OECD Test Guideline 473

Result: negative

### **Polyethylene glycol:**

Genotoxicity in vitro

: Test Type: Ames test

Result: negative

### **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

: Test Type: Mouse Lymphoma

Result: positive

Genotoxicity in vivo

: Test Type: Micronucleus test

Species: Mouse (male and female)

Application Route: Oral

Result: negative

### **Carcinogenicity**

Not classified based on available information.

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### Ingredients:

#### **2,4-Pentanedione, peroxide:**

Remarks: This information is not available.

#### **Diacetone alcohol:**

Application Route: inhalation (vapor)

1.847 mg/l

Method: OECD Test Guideline 451

Remarks: Based on data from similar materials

#### **tert-Butyl perbenzoate:**

Remarks: This information is not available.

#### **IARC**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### **OSHA**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### **NTP**

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### **Reproductive toxicity**

Not classified based on available information.

### Ingredients:

#### **2,4-Pentanedione, peroxide:**

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

#### **Diacetone alcohol:**

Effects on fertility : Species: Rat  
Application Route: oral (gavage)  
General Toxicity Parent: NOAEL: 300 mg/kg body weight  
General Toxicity F1: NOAEL: 300 mg/kg body weight  
Method: OECD Test Guideline 422

Effects on fetal development : Species: Rat  
Application Route: inhalation (vapor)  
General Toxicity Maternal: NOAEL: 4.106  
Embryo-fetal toxicity.: NOAEL: 12,292  
Method: OECD Test Guideline 414

#### **Polyethylene glycol:**

#### **tert-Butyl perbenzoate:**

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Effects on fertility : Species: Rat  
Application Route: Oral  
General Toxicity Parent: NOAEL: 300 mg/kg body weight  
Method: OECD Test Guideline 421

Effects on fetal development : Species: Rat  
Application Route: Oral  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Method: OECD Test Guideline 414

### **STOT-single exposure**

May cause respiratory irritation.

#### **Ingredients:**

##### **Diacetone alcohol:**

Assessment: May cause respiratory irritation.

### **STOT-repeated exposure**

Not classified based on available information.

### **Repeated dose toxicity**

#### **Ingredients:**

##### **Diacetone alcohol:**

Species: Rat  
NOAEL: 1.04 mg/l  
LOAEL: 4.685 mg/l  
Application Route: inhalation (vapor)  
Exposure time: 6 w  
Method: OECD Test Guideline 412

Species: Rat  
NOAEL: 100 mg/kg  
Application Route: oral (gavage)  
Method: OECD Test Guideline 422

##### **Polyethylene glycol:**

Species: Dog  
NOAEL: 500 mg/kg  
Application Route: Oral

### **Aspiration toxicity**

Not classified based on available information.

### **Further information**

#### **Product:**

Remarks: No data available

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### Ingredients:

#### **2,4-Pentanedione, peroxide:**

Remarks: No data available

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Ingredients:

#### **2,4-Pentanedione, peroxide:**

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 67.6 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 7.05 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 5.36 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50: 614 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

#### **Diacetone alcohol:**

- Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- NOEC (Daphnia magna (Water flea)): 1,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae : EbC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 1,000 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 100 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### **Polyethylene glycol:**

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 1,000 mg/l  
Exposure time: 48 h  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (Cesar models), etc.

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 398,913 mg/l  
Exposure time: 72 h  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (Cesar models), etc.

Toxicity to microorganisms : IC50: 1,651,512 mg/l  
Exposure time: 46 h  
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (Cesar models), etc.

### **tert-Butyl perbenzoate:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.6 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 11 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.8 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.72 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1



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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 0.49 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: 43 mg/l  
Exposure time: 0.5 h  
Method: OECD Test Guideline 209

### Persistence and degradability

#### Ingredients:

##### **2,4-Pentanedione, peroxide:**

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

##### **Diacetone alcohol:**

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

##### **Polyethylene glycol:**

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

##### **tert-Butyl perbenzoate:**

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

### Bioaccumulative potential

#### Ingredients:

##### **2,4-Pentanedione, peroxide:**

Partition coefficient: n-octanol/water : log Pow: 1.1 (25 °C)  
Method: OECD Test Guideline 117

##### **Diacetone alcohol:**

Partition coefficient: n-octanol/water : log Pow: < 3

##### **Polyethylene glycol:**

Bioaccumulation : Bioconcentration factor (BCF): 3.2

Partition coefficient: n-octanol/water : log Pow: -2.3 (25 °C)

##### **tert-Butyl perbenzoate:**

Partition coefficient: n-octanol/water : log Pow: 2.89 (25 °C)

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### Mobility in soil

No data available

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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

#### Ingredients:

##### **2,4-Pentanedione, peroxide:**

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

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

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

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.  
Dispose of in accordance with local regulations.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : UN 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(ACETYL ACETONE PEROXIDE, tert-BUTYL PEROXYBENZOATE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2

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### IATA-DGR

UN/ID No. : UN 3105  
Proper shipping name : Organic peroxide type D, liquid  
(Acetyl acetone peroxide, 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 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(ACETYL ACETONE PEROXIDE, tert-BUTYL  
PEROXYBENZOATE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : no

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

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number : UN 3105  
Proper shipping name : Organic peroxide type D, liquid  
(Tert-Butyl Peroxybenzoate, <=12%, Acetyl Acetone Perox-  
ide, <=32%)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : ORGANIC PEROXIDE  
ERG Code : 145  
Marine pollutant : no

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## SECTION 15. REGULATORY INFORMATION

### EPCRA - Emergency Planning and Community Right-to-Know

#### CERCLA Reportable Quantity

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

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

**SARA 311/312 Hazards** : Fire Hazard  
Reactivity Hazard  
Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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

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

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

|                     |            |
|---------------------|------------|
| Diacetone alcohol   | 123-42-2   |
| Polyethylene glycol | 25322-68-3 |

### Clean Water Act

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

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

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

**California Prop. 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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

|            |  |
|------------|--|
| DSL (CA)   | : All components of this product are on the Canadian DSL |
| AICS (AU)  | : On the inventory, or in compliance with the inventory  |
| NZIoC (NZ) | : On the inventory, or in compliance with the inventory  |
| 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  |
| TCSI (TW)  | : On the inventory, or in compliance with the inventory  |
| TSCA (US)  | : On TSCA Inventory                                      |

### TSCA list

No substances are subject to a Significant New Use Rule.

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

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### SECTION 16. OTHER INFORMATION

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Revision Date : 04/30/2018

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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