

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NOROX<sup>®</sup> PD-40

Chemical nature : Organic Peroxide  
Liquid mixture

#### Manufacturer or supplier's details

Company : United Initiators (Shanghai) Co., Ltd

Address : Room 501, Bldg. 1, No. 1 Shangda Road  
Shanghai, China, 200444

Telephone : +86 21 61172758

Emergency telephone number : +86 21 61172762

E-mail address : cs-initiators.cn@united-in.com

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

Recommended use : Hardener

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

Appearance	: liquid
Colour	: light yellow
Odour	: slight

Combustible liquid. Heating may cause a fire. May be harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. Toxic to aquatic life.

#### GHS Classification

Flammable liquids : Category 4

Organic peroxides : Type D

Acute toxicity (Oral) : Category 5

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519




## NOROX® PD-40

Version 2.0      Revision Date: 2024/06/07      SDS Number: 600000000160      Date of last issue: 2020/08/06  
Date of first issue: 2017/02/21

Reproductive toxicity : Category 2  
Specific target organ toxicity - single exposure : Category 3 (respiratory tract irritation)  
Short-term (acute) aquatic hazard : Category 2

### GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H227 Combustible liquid.  
H242 Heating may cause a fire.  
H303 May be harmful if swallowed.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H361 Suspected of damaging fertility or the unborn child.  
H401 Toxic to aquatic life.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
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 mist or vapours.  
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.  
**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.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX® PD-40

Version 2.0      Revision Date: 2024/06/07      SDS Number: 600000000160      Date of last issue: 2020/08/06  
Date of first issue: 2017/02/21

water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P312 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.

### 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 77 °F/ 25 °C. Keep cool.

P420 Store away from other materials.

### Disposal:

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

### Physical and chemical hazards

Combustible liquid. Heating may cause a fire.

### Health hazards

May be harmful if swallowed. Causes serious eye damage. May cause an allergic skin reaction. Suspected of damaging fertility or the unborn child. May cause respiratory irritation.

### Environmental hazards

Toxic to aquatic life.

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
2,4-Pentanedione, peroxide	37187-22-7	>= 30 -< 35
Diacetone alcohol	123-42-2	>= 30 -< 35
Acetylacetone	123-54-6	>= 2.5 -< 5

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### 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 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.  
If breathed in, move person into fresh air.  
If not breathing, give artificial respiration.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
If symptoms persist, call a physician.
- 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 : May be harmful if swallowed.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
May cause respiratory irritation.  
Suspected of damaging fertility or the unborn child.  
sensitising effects
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Notes to physician : Treat symptomatically and supportively.

---

### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray jet  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
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 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.  
Vapours may form explosive mixtures with air.  
Cool closed containers exposed to fire with water spray.
- Specific extinguishing methods : 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.
- 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.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Use personal protective equipment.
- 

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency measures : Follow safe handling advice and personal protective equipment recommendations.
-

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

---

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

gency procedures	:	Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Use personal protective equipment. Remove all sources of ignition.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contact with incompatible substances can cause decomposition at or below SADT. Clear spills immediately. Suppress (knock down) gases/vapours/mists with a water spray jet. To clean the floor and all objects contaminated by this material, use plenty of water. Soak up with inert absorbent material. Isolate waste and do not reuse. Non-sparking tools should be used. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Prevention of secondary hazards	:	Never return spills in original containers for re-use. Treat recovered material as described in the section "Disposal considerations".

---

## 7. HANDLING AND STORAGE

### Handling

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 vapours). 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. Do not spray on a naked flame or any incandescent material.
Advice on safe handling	:	Open drum carefully as content may be under pressure. Protect from contamination. Do not swallow. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

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 sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Avoidance of contact : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

### Storage

Conditions for safe storage : Store in original container.  
Keep containers tightly closed in a cool, well-ventilated place.  
Store in cool 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 - 25 °C

Further information on storage stability : Stable under recommended storage conditions.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX® PD-40

Version 2.0      Revision Date: 2024/06/07      SDS Number: 600000000160      Date of last issue: 2020/08/06  
Date of first issue: 2017/02/21

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Diacetone alcohol	123-42-2	PC-TWA	240 mg/m <sup>3</sup>	CN OEL
		TWA	50 ppm	ACGIH
Acetylacetone	123-54-6	TWA	25 ppm	ACGIH

**Engineering measures** : Minimize workplace exposure concentrations.

#### Personal protective equipment

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

Filter type : ABEK-filter

Eye/face protection : Ensure that eyewash stations and safety showers are close to the workstation location.  
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.  
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.

#### Hand protection

Material : Nitrile rubber  
Break through time : < 30 min  
Glove thickness : 0.40 mm

Material : butyl-rubber  
Break through time : 480 min  
Glove thickness : 0.47 mm

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 protec-



# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

tive 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.

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.

---

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: light yellow
Odour	: slight
Odour Threshold	: not determined
pH	: No data available
Melting point/range	: No data available
Boiling point/boiling range	: No data available
Flash point	: 68 °C Method: closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Flammability (liquids)	:	Organic peroxide
Self-ignition	:	The substance or mixture is not classified as pyrophoric.
Upper explosion limit / Upper flammability limit	:	Upper explosion limit 6.9 %(V) (for a component of this mixture)
Lower explosion limit / Lower flammability limit	:	Lower explosion limit 1.8 %(V) (for a component of this mixture)
Vapour pressure	:	not determined
Relative vapour density	:	No data available
Relative density	:	not determined
Density	:	ca. 1.1 g/cm <sup>3</sup>
Solubility(ies) Water solubility	:	soluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	not determined
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	:	ca. 38 mPa.s
Viscosity, kinematic	:	not determined
Explosive properties	:	Not explosive In use, may form flammable/explosive vapour-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.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### 10. STABILITY AND REACTIVITY

- |                                    |   |   |
|------------------------------------|---|---|
| Reactivity                         | : | Stable under recommended storage conditions.<br>Heating may cause a fire or explosion.  |
| Chemical stability                 | : | Stable under recommended storage conditions.<br>No decomposition if stored normally.  |
| Possibility of hazardous reactions | : | Vapours may form explosive mixture with air.  |
| Conditions to avoid                | : | Protect from contamination.<br>Contact with incompatible substances can cause decomposition at or below SADT.<br>Heat, flames and sparks.<br>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   |
- 

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

May be harmful if swallowed.

#### **Product:**

- |                           |   |   |
|---------------------------|---|---|
| Acute oral toxicity       | : | Acute toxicity estimate: 3,677 mg/kg<br>Method: Calculation method  |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 40 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
| Acute dermal toxicity     | : | Acute toxicity estimate: > 5,000 mg/kg<br>Method: Calculation method  |

#### **Components:**

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

- |                           |   |  |
|---------------------------|---|--|
| Acute oral toxicity       | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat, male): > 13.1 mg/l                                |
-

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX® PD-40

Version 2.0      Revision Date: 2024/06/07      SDS Number: 600000000160      Date of last issue: 2020/08/06  
Date of first issue: 2017/02/21

---

Exposure time: 1 h  
Test atmosphere: dust/mist  
Method: Expert judgement  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: Expert judgement  
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, male and female): >= 7.6 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: No mortality observed at this dose.

Acute dermal toxicity : LD0 (Rat): > 1,875 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

### **Acetylacetone:**

Acute oral toxicity : LD50 (Rat): 570 mg/kg

Acute inhalation toxicity : LC50 (Rat): 5.1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit, female): 790 mg/kg

### **Skin corrosion/irritation**

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

### **Product:**

Remarks : May cause skin irritation in susceptible persons.

### **Components:**

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

Species : Rabbit

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Method : OECD Test Guideline 404  
Result : No skin irritation

### **Diacetone alcohol:**

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

### **Acetylacetone:**

Species : Rabbit  
Result : No skin irritation

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

Causes serious eye damage.

### **Product:**

Remarks : May cause irreversible eye damage.

### **Components:**

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

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

#### **Diacetone alcohol:**

Species : Rabbit  
Result : Irritation to eyes, reversing within 21 days  
Method : OECD Test Guideline 405

#### **Acetylacetone:**

Species : Rabbit  
Result : No eye irritation

### **Respiratory or skin sensitisation**

#### **Skin sensitisation**

May cause an allergic skin reaction.

#### **Respiratory sensitisation**

Not classified due to lack of data.

### **Product:**

Remarks : Causes sensitisation.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version 2.0      Revision Date: 2024/06/07      SDS Number: 600000000160      Date of last issue: 2020/08/06  
Date of first issue: 2017/02/21

---

### Components:

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

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Probability or evidence of skin sensitisation in humans

Remarks : Causes sensitisation.

#### **Diacetone alcohol:**

Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitisation.

#### **Acetylacetone:**

Exposure routes : Skin contact  
Species : Mouse  
Method : OECD Test Guideline 429  
Result : Does not cause skin sensitisation.

### **Germ cell mutagenicity**

Not classified due to lack of data.

### Components:

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

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: 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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Method: OECD Test Guideline 473  
Result: negative

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

Germ cell mutagenicity - Assessment : Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Acetylacetone:

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

Method: OECD Test Guideline 479  
Result: positive

Method: OECD Test Guideline 473  
Result: positive

Method: OECD Test Guideline 476  
Result: negative

Genotoxicity in vivo : Method: OECD Test Guideline 474  
Result: positive

Method: OECD Test Guideline 483  
Result: negative

Method: OECD Test Guideline 475  
Result: negative

Method: OECD Test Guideline 478  
Result: Equivocal

Test Type: DNA Repair  
Species: Rat  
Application Route: Oral  
Result: negative

Species: Rat  
Application Route: inhalation (vapour)  
Method: OPPTS 870.5395  
Result: negative

### Carcinogenicity

Not classified due to lack of data.

### Components:

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

Remarks : This information is not available.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### Diacetone alcohol:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### Reproductive toxicity

Suspected of damaging fertility or the unborn child.

### Components:

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

Effects on fertility : Remarks: No data available

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

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

### Acetylacetone:

Effects on foetal development : Species: Rat  
Application Route: inhalation (vapour)  
Duration of Single Treatment: 13 d  
General Toxicity Maternal: NOAEC: 200  
Teratogenicity: NOAEC Parent: 400  
Embryo-foetal toxicity: NOAEC F1: 50  
Method: OECD Test Guideline 414

Species: Rat  
Application Route: inhalation (vapour)  
Duration of Single Treatment: 13 d  
General Toxicity Maternal: LOAEC: 400  
Embryo-foetal toxicity: LOAEC F1: 200  
Method: OECD Test Guideline 414



# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### STOT - single exposure

May cause respiratory irritation.

#### Components:

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

Target Organs	:	Respiratory system
Assessment	:	May cause respiratory irritation.

### STOT - repeated exposure

Not classified due to lack of data.

#### **Repeated dose toxicity**

#### Components:

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

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

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

##### **Acetylacetone:**

Species	:	Rat
NOAEL	:	200 mg/kg
LOAEL	:	805 mg/kg
Application Route	:	inhalation (vapour)
Exposure time	:	9 d

Species	:	Rat
NOAEL	:	100 mg/kg
Application Route	:	inhalation (vapour)
Exposure time	:	90 d
Method	:	OECD Test Guideline 413

Species	:	Rabbit
NOAEL	:	244 mg/kg
LOAEL	:	975 mg/kg
Application Route	:	Dermal
Exposure time	:	9 d

#### **Aspiration toxicity**

Not classified due to lack of data.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### Components:

#### **Acetylacetone:**

No aspiration toxicity classification

### **Further information**

#### Product:

Remarks : No data available

### Components:

#### **Acetylacetone:**

Remarks : Solvents may degrease the skin.

---

## 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Components:

##### **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/aquatic plants	:	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

---

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX® PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Toxicity to algae/aquatic plants : 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

### Acetylacetone:

Toxicity to fish : LC50 (Fish): 104 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 25.9 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 83.22 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 3.2 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 10 mg/l  
Exposure time: 34 d  
Method: OECD Test Guideline 210

LOEC (Pimephales promelas (fathead minnow)): 22 mg/l  
Exposure time: 34 d  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 18 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: 107.6 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

EC10: 13.2 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### Persistence and degradability

#### Components:

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

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

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

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

##### **Acetylacetone:**

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

### Bioaccumulative potential

#### Components:

##### **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: -0.09 (20 °C)

##### **Acetylacetone:**

Bioaccumulation : Bioconcentration factor (BCF): 3.16  
Remarks: Calculation

Partition coefficient: n-octanol/water : log Pow: 0.68 (40 °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.  
Toxic to aquatic life.

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

### 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.
- 

### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 3105
- Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE)
- Class : 5.2
- Packing group : Not assigned by regulation
- Labels : 5.2
- Environmentally hazardous : no

##### IATA-DGR

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

Marine pollutant : no

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

Not applicable for product as supplied.

### National Regulations

#### GB 6944/12268

UN number : UN 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(ACETYL ACETONE PEROXIDE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
Marine pollutant : no

### Special precautions for user

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

---

## 15. REGULATORY INFORMATION

### National regulatory information

#### Gefahrgruppe nach TRGS 741: II (German regulatory requirements)

#### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

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

No. / Code	Chemical name / Category	Threshold quantity
W7.2	Organic peroxides	50 t

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

TCSI (TW) : On the inventory, or in compliance with the inventory  
TSCA (US) : All substances listed as active on the TSCA inventory  
AIIC (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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

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

---

### 16. OTHER INFORMATION

Revision Date : 2024/06/07

#### Further information

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

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

Date format : yyyy/mm/dd

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA : 8-hour, time-weighted average  
CN OEL / PC-TWA : Permissible concentration - time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Or-

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## NOROX<sup>®</sup> PD-40

Version	Revision Date:	SDS Number:	Date of last issue: 2020/08/06
2.0	2024/06/07	600000000160	Date of first issue: 2017/02/21

---

ganisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not 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.

CN / EN