# SAFETY DATA SHEET

# NOROX®750

| Version | Revision Date: | SDS Number: | Date of last issue: 07/16/2021 |
|---|---|---|---|
| 3.0 | 07/28/2023 | 600000000154 | Date of first issue: 10/18/2016 |

## SECTION 1. IDENTIFICATION

Trade name : NOROX®750

Other means of identification : No data available

**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 : TERRAPURE EMERGENCY RESPONSE SERVICES (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 : Hardener

## SECTION 2. HAZARDS IDENTIFICATION

**GHS classification in accordance with the Hazardous Products Regulations**

Flammable liquids : Category 3

Organic peroxides : Type D

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion : Category 1B

| | | |
|---|---|---|
| Serious eye damage | : | Category 1 |
| Skin sensitization | : | Category 1 |
| Carcinogenicity | : | Category 1B |
| Reproductive toxicity | : | Category 1B |
| Specific target organ toxicity - single exposure | : | Category 3 (Respiratory system) |
| Specific target organ toxicity - repeated exposure | : | Category 2 |
| Short-term (acute) aquatic hazard | : | Category 2 |
| Long-term (chronic) aquatic hazard | : | Category 3 |

**GHS label elements**

Hazard pictograms :

Signal Word : Danger

Hazard Statements :
H226 Flammable liquid and vapor.
H242 Heating may cause a fire.
H302 + H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P234 Keep only in original packaging.

P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
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:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
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.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding < 38 °C/ < 100 °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 : Mixture

Chemical nature : Organic Peroxide
Liquid mixture

**Components**

| Chemical name | Common Name/Synonym | CAS-No. | Concentration (% w/w) |
|---|---|---|---|
| 2,4-Pentanedione, peroxide | 2,4-Pentanedione, peroxide | 37187-22-7 | >= 25 - < 30 * |
| N-Methyl-2-pyrrolidone | N-Methyl-2-pyrrolidone | 872-50-4 | >= 20 - < 25 * |
| Cumene hydroperoxide | Cumene hydro-peroxide | 80-15-9 | >= 15 - < 20 * |
| Cumene | Cumene | 98-82-8 | >= 1 - < 5 * |

* 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.
Call a physician immediately.
If breathed in, move person into fresh air.
If not breathing, give artificial respiration.
Respiratory tract burning possible if aerosols are inhaled.
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.
Immediate medical treatment is necessary as untreated

wounds from corrosion of the skin heal slowly and with difficulty.
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 | : | Small amounts splashed into eyes can cause irreversible tissue damage and blindness.<br>In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.<br>Continue rinsing eyes during transport to hospital.<br>Remove contact lenses.<br>Protect unharmed eye.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist. |
| If swallowed | : | Call a physician immediately.<br>Rinse mouth thoroughly with water.<br>Keep respiratory tract clear.<br>Do NOT induce vomiting.<br>If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : | Harmful if swallowed or if inhaled.<br>May cause an allergic skin reaction.<br>Causes serious eye damage.<br>May cause respiratory irritation.<br>May cause cancer.<br>May damage fertility or the unborn child.<br>May cause damage to organs through prolonged or repeated exposure.<br>Causes severe burns. |
| 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<br>Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>Dry chemical |
| Unsuitable extinguishing media | : | High volume water jet |
| Specific hazards during fire | : | Risk of explosion if heated under confinement. |

| | | |
|---|---|---|
| fighting | | Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up.<br>Avoid confinement.<br>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.<br><br>The product burns violently.<br>Flash back possible over considerable distance.<br>Do not allow run-off from fire fighting to enter drains or water courses.<br>Vapors may form explosive mixtures with air.<br>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.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Use water spray to cool unopened containers. |
| Further information | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use a water spray to cool fully closed containers.<br>Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>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.<br>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.<br>Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.<br>Use personal protective equipment.<br>Remove all sources of ignition.<br>Evacuate personnel to safe areas.<br>Never return spills in original containers for re-use.<br>Treat recovered material as described in the section "Disposal considerations". |
| Environmental precautions | : | Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>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.<br>Clear spills immediately.<br>Suppress (knock down) gases/vapors/mists with a water spray jet.<br>To clean the floor and all objects contaminated by this material, use plenty of water.<br>Soak up with inert absorbent material.<br>Isolate waste and do not reuse.<br>Non-sparking tools should be used.<br>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).<br>Keep away from heat and sources of ignition.<br>Use only explosion-proof equipment.<br>Keep away from open flames, hot surfaces and sources of ignition.<br>Keep away from combustible material.<br>Do not spray on a naked flame or any incandescent material. |
| Advice on safe handling | : | Open drum carefully as content may be under pressure.<br>Protect from contamination.<br>Do not swallow.<br>Do not breathe vapors/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>Avoid formation of aerosol.<br>Take precautionary measures against static discharges.<br>Never return any product to the container from which it was originally removed.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Avoid confinement.<br>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Wash thoroughly after handling.<br>For personal protection see section 8.<br>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.
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 strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : < 38 °C

Further information on storage stability : No decomposition if stored normally.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| N-Methyl-2-pyrrolidone | 872-50-4 | TWA | 400 mg/m3 | CA ON OEL |
| Cumene | 98-82-8 | TWA | 50 ppm<br>246 mg/m3 | CA AB OEL |
| | | TWA | 25 ppm | CA BC OEL |
| | | STEL | 75 ppm | CA BC OEL |
| | | TWAEV | 50 ppm<br>246 mg/m3 | CA QC OEL |
| | | TWA | 5 ppm | ACGIH |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| N-Methyl-2-pyrrolidone | 872-50-4 | 5-Hydroxy-N-methyl-2-pyrrolidone | Urine | End of shift (As soon as possible after exposure ceases) | 100 mg/l | ACGIH BEI |

**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 | : | butyl-rubber |
| Break through time | : | 480 min |
| Glove thickness | : | 0.5 mm |

| | | |
|---|---|---|
| Material | : | Nitrile rubber |
| Break through time | : | < 30 min |
| Glove thickness | : | 0.4 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 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.<br>Keep away from food and drink.<br>When using do not eat or drink.<br>When using do not smoke.<br>Wash hands before breaks and immediately after handling the product. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | light yellow |
| Odor | : | slight |
| pH | : | No data available |
| Melting point/range | : | No data available |
| Boiling point/boiling range | : | Decomposition: Decomposes below the boiling point. |
| Flash point | : | 60 °C<br>Method: Seta closed cup |
| Flammability (solid, gas) | : | Not applicable |
| Self-ignition | : | The substance or mixture is not classified as self heating. The substance or mixture is not classified as pyrophoric. |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density | : | > 1 |
| Density | : | 1.1 - 1.2 g/cm3 |
| Solubility(ies) | | |

| | | |
|---|---|---|
| Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | No data available |
| Self-Accelerating decomposition temperature (SADT) | : | > 50 °C<br>Method: UN-Test H.4<br>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 |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing.<br>Organic peroxide |

## SECTION 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 | : | Vapors 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 |

## SECTION 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Harmful if swallowed or if inhaled.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 1,466 mg/kg<br>Method: Calculation method |

| | | |
|---|---|---|
| Acute inhalation toxicity | : | Acute toxicity estimate: 17.65 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapor<br>Method: Calculation method |
| Acute dermal toxicity | : | Acute toxicity estimate: > 2,000 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<br>Exposure time: 1 h<br>Test atmosphere: dust/mist<br>Method: Expert judgment<br>Assessment: The substance or mixture has no acute inhalation toxicity |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: Expert judgment<br>Assessment: The substance or mixture has no acute dermal toxicity |

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 4,150 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute inhalation toxicity | : | LC50 (Rat): > 5.1 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: OECD Test Guideline 403<br>Assessment: The substance or mixture has no acute inhalation toxicity<br>Remarks: No mortality observed at this dose. |
| Acute dermal toxicity | : | LD50 (Rat): > 5,000 mg/kg<br>Method: OECD Test Guideline 402<br>Remarks: No mortality observed at this dose. |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Oral (Rat): 382 mg/kg |
| Acute inhalation toxicity | : | LC50: 1.370 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Assessment: The component/mixture is toxic after short term inhalation. |

| | | |
|---|---|---|
| Acute dermal toxicity | : | LD50: 1,200 - 1,520 mg/kg<br>Assessment: The component/mixture is moderately toxic after single contact with skin. |

**Cumene:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 2,260 mg/kg<br>Method: OECD Test Guideline 401 |
| Acute dermal toxicity | : | LD50 (Rabbit): > 3,160 mg/kg<br>Assessment: The substance or mixture has no acute dermal toxicity<br>Remarks: No mortality observed at this dose. |

**Skin corrosion/irritation**

Causes severe burns.

**Product:**

| | | |
|---|---|---|
| Remarks | : | Extremely corrosive and destructive to tissue. |

**Components:**

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

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

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| Result | : | Irritating to skin. |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | Causes burns. |
| Remarks | : | Extremely corrosive and destructive to tissue. |

**Cumene:**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Method | : | OECD Test Guideline 404 |
| 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

**N-Methyl-2-pyrrolidone:**

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

**Cumene hydroperoxide:**

Species : Rabbit
Result : Corrosive

Remarks : May cause irreversible eye damage.

**Cumene:**

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.

**Components:**

**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.

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Method | : | OECD Test Guideline 429 |
| Result | : | Does not cause skin sensitization. |
| Remarks | : | Based on data from similar materials |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Result | : | Does not cause skin sensitization. |

**Cumene:**

| | | |
|---|---|---|
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | Does not cause skin sensitization. |

**Germ cell mutagenicity**

Not classified based on available information.

**Components:**

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

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: positive<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>Result: negative |
| Genotoxicity in vivo | : | Test Type: In vivo micronucleus test<br>Species: Mouse (male and female)<br>Application Route: Intraperitoneal injection<br>Method: OECD Test Guideline 474<br>Result: negative |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: in vitro test<br>Test system: Salmonella typhimurium<br>Result: positive |
| Genotoxicity in vivo | : | Test Type: Micronucleus test<br>Species: Mouse<br>Application Route: Skin contact<br>Result: negative |

**Cumene:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Method: OECD Test Guideline 473<br>Result: negative |

Method: OECD Test Guideline 471
Result: negative

Method: OECD Test Guideline 476
Result: negative

Method: OECD Test Guideline 482
Result: negative

Test Type: Ames test
Result: positive

Genotoxicity in vivo : Species: Rat
Application Route: Intraperitoneal
Exposure time: 72 h
Method: OECD Test Guideline 474
Result: Equivocal

Species: Mouse
Application Route: inhalation (gas)
Exposure time: 14 w
Method: OECD Test Guideline 474
Result: negative

**Carcinogenicity**

May cause cancer.

**Components:**

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

Remarks : This information is not available.

**Cumene hydroperoxide:**

Remarks : This information is not available.

**Cumene:**

Species : Rat, male and female
Application Route : inhalation (vapor)
Result : carcinogenic effects

Species : Mouse, male and female
Application Route : inhalation (vapor)
Result : carcinogenic effects

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

**Reproductive toxicity**

May damage fertility or the unborn child.

**Components:**

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

| | | |
|---|---|---|
| Effects on fertility | : | Remarks: No data available |
| Effects on fetal development | : | Remarks: No data available |

**N-Methyl-2-pyrrolidone:**

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

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Effects on fertility | : | Remarks: No data available |
| Effects on fetal development | : | Remarks: No data available |

**Cumene:**

| | | |
|---|---|---|
| Effects on fetal development | : | Species: Rabbit<br>Application Route: inhalation (vapor)<br>General Toxicity Maternal: LOAEL: 500<br>Developmental Toxicity: NOAEL: 2,300<br>Method: OECD Test Guideline 414 |

**STOT-single exposure**

May cause respiratory irritation.

**Components:**

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Assessment | : | May cause respiratory irritation. |

**Cumene:**

| | | |
|---|---|---|
| Assessment | : | May cause respiratory irritation. |

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Components:**

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Assessment | : | May cause damage to organs through prolonged or repeated exposure. |

**Repeated dose toxicity**

**Components:**

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 0.5 mg/l |
| LOAEL | : | 1 mg/l |
| Application Route | : | inhalation (vapor) |
| Exposure time | : | 90 d |
| Method | : | OECD Test Guideline 413 |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 3,000 mg/kg |
| LOAEL | : | 7,500 mg/kg |
| Application Route | : | Ingestion |
| Exposure time | : | 90 d |
| Method | : | OECD Test Guideline 408 |

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 6,000 mg/kg |
| LOAEL | : | 18,000 mg/kg |
| Application Route | : | oral (feed) |
| Exposure time | : | 28 d |
| Method | : | OECD Test Guideline 407 |

| | | |
|---|---|---|
| Species | : | Rabbit |
| NOAEL | : | 826 mg/kg |
| Application Route | : | Skin contact |
| Exposure time | : | 20 d |
| Method | : | OECD Test Guideline 410 |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEC | : | 31 mg/m³ |
| Application Route | : | inhalation (gas) |
| Exposure time | : | 90 d |

**Cumene:**

| | | |
|---|---|---|
| Species | : | Rat |
| NOAEL | : | 154 mg/kg |
| Application Route | : | Oral |
| Method | : | OECD Test Guideline 413 |

**Aspiration toxicity**

Not classified based on available information.

**Components:**

**Cumene:**

May be fatal if swallowed and enters airways.

**Further information**

**Product:**

Remarks : Solvents may degrease the skin.

**Components:**

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

Remarks : No data available

## SECTION 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

**N-Methyl-2-pyrrolidone:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Method: DIN 38412

EC50 (Palaeomonetes vulgaris (Grass shrimp)): 1,107 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l
Exposure time: 72 h

NOEC (Desmodesmus subspicatus (green algae)): 125 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 12.5 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

LOEC (Daphnia magna (Water flea)): 25 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 600 mg/l
Exposure time: 0.5 h
Method: ISO 8192

**Cumene hydroperoxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.9 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)): 18.8 mg/l
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 3.1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (Pseudomonas putida): 50 mg/l
End point: Growth rate
Exposure time: 16 h

**Cumene:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.8 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.14 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

| | | |
|---|---|---|
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): 2.01 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.35 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211 |
| Toxicity to microorganisms | : | EC50: > 2,000 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Chronic aquatic toxicity | : | Toxic to aquatic life with long lasting effects. |

**Persistence and degradability**

**Components:**

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

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Method: OECD Test Guideline 301D |

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable.<br>Method: OECD Test Guideline 301C |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Not readily biodegradable.<br>Method: OECD Test Guideline 301B |

**Cumene:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable. |

**Bioaccumulative potential**

**Components:**

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

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

**N-Methyl-2-pyrrolidone:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: -0.46 (25 °C) |

**Cumene hydroperoxide:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 1.6 |

**Cumene:**

| | | |
|---|---|---|
| Bioaccumulation | : | Bioconcentration factor (BCF): 94.69<br>Remarks: Calculation |
| Partition coefficient: n-octanol/water | : | log Pow: 3.55 (23 °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.<br>Toxic to aquatic life.<br>Harmful to aquatic life with long lasting effects. |

**Components:**

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

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

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Dispose of wastes in an approved waste disposal facility.<br>The product should not be allowed to enter drains, water courses or the soil.<br>Do not contaminate ponds, waterways or ditches with chemical or used container. |
| Contaminated packaging | : | Dispose of in accordance with local regulations.<br>Clean container with water.<br>Dispose of contents/ container to an approved waste disposal plant.<br>Empty remaining contents.<br>Dispose of as unused product.<br>Do not re-use empty containers.<br>Do not burn, or use a cutting torch on, the empty drum. |

## SECTION 14. TRANSPORT INFORMATION

### International Regulations

**UNRTDG**

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

**IATA-DGR**

| | | |
|---|---|---|
| UN/ID No. | : | UN 3105 |
| Proper shipping name | : | Organic peroxide type D, liquid (Acetyl acetone peroxide, Cumyl hydroperoxide) |
| 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, CUMYL HYDROPEROXIDE) |
| 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**

**TDG**

| | | |
|---|---|---|
| UN number | : | UN 3105 |
| Proper shipping name | : | ORGANIC PEROXIDE TYPE D, LIQUID (ACETYL ACETONE PEROXIDE, CUMYL HYDROPEROXIDE) |
| Class | : | 5.2 |
| Packing group | : | II |
| Labels | : | 5.2 |
| ERG Code | : | 145 |
| 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.

## SECTION 15. REGULATORY INFORMATION

**NPRI Components** : Cumene hydroperoxide
N-Methyl-2-pyrrolidone
Cumene

**The ingredients 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 |
| PICCS (PH) | : | On the inventory, or in compliance with the inventory |
| IECSC (CN) | : | 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

**Further information**

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 | : | 07/28/2023 |

| | | |
|---|---|---|
| Date format | : | mm/dd/yyyy |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| CA AB OEL | : | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL) |
| CA BC OEL | : | Canada. British Columbia OEL |
| CA ON OEL | : | Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act. |
| CA QC OEL | : | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| CA AB OEL / TWA | : | 8-hour Occupational exposure limit |
| CA BC OEL / TWA | : | 8-hour time weighted average |
| CA BC OEL / STEL | : | short-term exposure limit |
| CA ON OEL / TWA | : | Time-Weighted Average Limit (TWA) |
| CA QC OEL / TWAEV | : | Time-weighted average exposure value |

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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