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SECTION 1: Identification of the hazardous chemical and of the supplier

Product identifier

Product name : CUROX[®]I-300

Recommended use of the chemical and restrictions on use Recommended use : Curing chemical

Manufacturer or supplier's details

Company : United Initiators GmbH

Address : Dr.-Gustav-Adolph-Str. 3

82049 Pullach

Telephone : +49 / 89 / 74422 - 0

Emergency telephone number : +49 / 89 / 74422 - 0 (24 h)

E-mail address : contact@united-in.com

SECTION 2: Hazards identification

Classification of the hazardous chemical

Flammable liquids : Category 3

Organic peroxides : Type D

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin corrosion/irritation : Category 1C

Serious eye damage/eye irri-

tation

Category 1

Skin sensitisation : Category 1

Carcinogenicity : Category 2

Aspiration hazard : Category 1

Hazardous to the aquatic

environment - chronic hazard

Category 2

Label elements

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Hazard pictograms











Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

H242 Heating may cause a fire.

H302 + H332 Harmful if swallowed or if inhaled. H304 May be fatal if swallowed and enters airways. H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction. H351 Suspected of causing cancer.

H411 Toxic 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/ 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.

P233 Keep container tightly closed.

P234 Keep only in original container.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equip-

ment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261 Avoid breathing mist or vapours.

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 protec-

tion/ face protection.

P281 Use personal protective equipment as required.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON

CENTER or doctor/ physician.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT

induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/

shower.

P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Imme-

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diately call a POISON CENTER or doctor/ physician.

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 or doctor/ physician.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use water spray, alcohol-resistant

foam, dry chemical or carbon dioxide for extinction.

P391 Collect spillage.

Storage:

P405 Store locked up.

P410 Protect from sunlight.

P411 + P235 Store at temperatures not exceeding < 25 °C/ <

77 °F. Keep cool.

P420 Store away from other materials.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

None known.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture

Chemical nature : Organic Peroxide

Liquid mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
2-Pentanone, 4-methyl-, peroxide	37206-20-5	>= 45 -< 50
Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated	93685-81-5	>= 40 -< 45
Isobutyl methyl ketone	108-10-1	>= 7.5 -< 10
cyclohexyldimethylamine	98-94-2	>= 0.25 -< 1

SECTION 4: First aid measures

General advice : Take off contaminated clothing and shoes immediately.

Call a physician immediately.

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> 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. No artificial respiration, mouth-to-mouth or mouth to nose. Use

suitable instruments/apparatus.

If inhaled Administer oxygen if breathing is difficult or cyanosis is ob-

served.

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 centre 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 difficul-

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 tis-

sue damage and blindness.

In the case of contact with eyes, rinse immediately with plenty

of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

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.

Contact a poison control center. Rinse mouth thoroughly with water.

Keep respiratory tract clear. Do NOT induce vomiting.

If symptoms persist, call a physician.

Most important symptoms and effects, both acute and

delayed

Harmful if swallowed or if inhaled.

May be fatal if swallowed and enters airways.

May cause an allergic skin reaction.

Causes serious eye damage. Suspected of causing cancer.

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Causes severe burns. sensitising effects

Protection of first-aiders : First Aid responders should pay attention to self-protection

and use the recommended protective clothing

Notes to physician : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Water spray jet

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Physicochemical hazards arising from the chemical

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.

The product will float on water and can be reignited on surface

water.

Cool closed containers exposed to fire with water spray.

Special protective equipment and precautions for fire-fighters

Special protective equipment

for firefighters

Wear self-contained breathing apparatus for firefighting if nec-

essary.

Use personal protective equipment.

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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

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fire.

Remove undamaged containers from fire area if it is safe to do

SO.

Use water spray to cool unopened containers.

Hazchem Code : 2WE

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emer-

gency procedures

Follow safe handling advice and personal protective equipment recommendations.

Beware of vapours accumulating to form explosive concentra-

tions. Vapours can accumulate in low areas.

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas. Never return spills in original containers for re-use.

Treat recovered material as described in the section "Disposal

considerations".

Environmental precautions

Prevent product from entering drains.

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 decomposi-

tion 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 materi-

al, 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 deter-

mine which regulations are applicable.

SECTION 7: Handling and storage

Handling

Precautions for safe 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.

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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.

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 ap-

plication 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.

Storage

Conditions for safe storage, including any incompatibilities

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 tem-

perature

< 25 °C

Further information on stor-

age stability

Stable under recommended storage conditions.

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SECTION 8: Exposure controls and personal protection

Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Isobutyl methyl ketone	108-10-1	TWA	50 ppm 205 mg/m3	MY PEL
		TWA	20 ppm	ACGIH
		STEL	75 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra-tion	Basis
Isobutyl methyl ketone	108-10-1	methyl iso- butyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	1 mg/l	ACGIH BEI

Appropriate engineering

controls

Minimize workplace exposure concentrations.

Individual protection measures, such as personal protective equipment

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 pro-

tection if there is a splash hazard.

Skin 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, dis-

posable suits) to avoid exposed skin surfaces.

Wear as appropriate:

Flame retardant antistatic protective clothing.

Hand protection

Material : Nitrile rubber

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Break through time : 30 min Glove thickness : 0.40 mm

Material : butyl-rubber
Break through time : 120 min
Glove thickness : 0.70 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.

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

approved filter.

Filter type : ABEK-filter

Hygiene measures : Avoid contact with skin, eyes and clothing.

Keep away from food and drink. When using do not eat or drink. When using do not smoke.

Wash hands before breaks and immediately after handling

the product.

SECTION 9: Physical and chemical properties

Appearance : liquid

Colour : colourless

Odour : characteristic

Odour Threshold : not determined

pH : No data available

Melting point/range : < -25 °C

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

Flash point : 40 °C

Method: ISO 3679, closed cup

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Flammable liquid and vapour., Organic peroxide

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper

flammability limit

Upper explosion limit

4 %(V)
(for a component of this mixture)

Lower explosion limit / Lower

flammability limit

Lower explosion limit

0.5 %(V)

(for a component of this mixture)

Vapour pressure : 1 hPa (20 °C)

(for a component of this mixture)

Relative vapour density : not determined

Relative density : not determined

Density : 0.89 g/cm3 (20 °C)

Solubility(ies)

Water solubility : practically insoluble

Solubility in other solvents : Solvent: Alcohol

Description: completely miscible

Solvent: Phthalates

Description: completely miscible

Partition coefficient: n-

octanol/water

Not applicable

Auto-ignition temperature : not determined

Self-Accelerating decomposi-

tion temperature (SADT)

50 °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 : 5 mPa.s (20 °C)

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not determined Viscosity, kinematic

Not explosive In use, may form flammable/explosive vapour-Explosive properties

air mixture.

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

Organic peroxide

Self-heating substances Not applicable

The substance or mixture is not classified as self heating.

Refractive index 1.43 (20 °C)

SECTION 10: Stability and reactivity

Reactivity Stable under recommended storage conditions.

Heating may cause a fire or explosion.

Chemical stability Stable under recommended storage conditions.

No decomposition if stored normally.

Possibility of hazardous reac-

tions

Vapours may form explosive mixture with air.

Conditions to avoid Protect from contamination.

Contact with incompatible substances can cause decomposi-

tion at or below SADT. Heat, flames and sparks. Avoid confinement.

Incompatible materials Accelerators, strong acids and bases, heavy metals and

heavy metal salts, reducing agents

Hazardous decomposition

products

Irritant, caustic, flammable, noxious/toxic gases and vapours

can develop in the case of fire and decomposition

SECTION 11: Toxicological information

Information on likely routes of : None known.

exposure

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity LD50 (Rat): 1,575 mg/kg

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Method: OECD Test Guideline 401

Remarks: Information given is based on tests on the mixture

itself.

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 403

Assessment: The component/mixture is moderately toxic after

short term inhalation.

Remarks: Information given is based on tests on the mixture

itself.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: No mortality observed at this dose.

Information given is based on tests on the mixture itself.

Components:

2-Pentanone, 4-methyl-, peroxide:

Acute oral toxicity : LD50 (Rat): 1,575 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The component/mixture is moderately toxic after

short term inhalation.

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: No mortality observed at this dose.

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Method: OECD Test Guideline 401

Assessment: The substance or mixture has no acute oral tox-

icity

Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5,000 mg/kg

Method: OECD Test Guideline 402

Isobutyl methyl ketone:

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Acute oral toxicity : LD50 (Rat): 2,080 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 11 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Remarks: No mortality observed at this dose.

cyclohexyldimethylamine:

Acute oral toxicity : LD50 (Rat): 272 - 289 mg/kg

Assessment: The component/mixture is toxic after single in-

gestion.

Acute inhalation toxicity : LC50 (Rat): > 1.7 - 5.8 mg/l

Exposure time: 6 h
Test atmosphere: vapour

Method: OECD Test Guideline 403

Assessment: The component/mixture is toxic after short term

inhalation.

Acute dermal toxicity : LD50 (Rat): 380 mg/kg

Method: OECD Test Guideline 402

Assessment: The component/mixture is toxic after single con-

tact with skin.

Skin corrosion/irritation

Causes severe burns.

Product:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Corrosive after 1 to 4 hours of exposure

Remarks : Information given is based on tests on the mixture itself.

Remarks : Extremely corrosive and destructive to tissue.

Components:

2-Pentanone, 4-methyl-, peroxide:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Corrosive after 1 to 4 hours of exposure

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Result : Repeated exposure may cause skin dryness or cracking.

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Isobutyl methyl ketone:

Species : Rabbit Exposure time : 72 h

Method : OECD Test Guideline 404

Result : No skin irritation

Result : Repeated exposure may cause skin dryness or cracking.

cyclohexyldimethylamine:

Result : Causes burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit

Result : Risk of serious damage to eyes.

Method : OECD Test Guideline 405

Remarks : Information given is based on tests on the mixture itself.

Remarks : May cause irreversible eye damage.

Components:

2-Pentanone, 4-methyl-, peroxide:

Species : Rabbit

Result : Risk of serious damage to eyes.

Method : OECD Test Guideline 405

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Result : No eye irritation

Isobutyl methyl ketone:

Species : Rabbit

Result : Mild eye irritation

Method : OECD Test Guideline 405

cyclohexyldimethylamine:

Result : Corrosive

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

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Product:

Test Type : Maximisation Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

Remarks : Information given is based on tests on the mixture itself.

Remarks : Causes sensitisation.

Components:

2-Pentanone, 4-methyl-, peroxide:

Test Type : Maximisation Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

Isobutyl methyl ketone:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

cyclohexyldimethylamine:

Test Type : Local lymph node assay (LLNA)

Species : Mouse

Method : OECD Test Guideline 429

Result : Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Not classified due to lack of data.

Product:

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

Test system: Salmonella typhimurium Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes Method: OECD Test Guideline 473

Result: positive

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

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Species: Mouse

Cell type: Bone marrow Application Route: Oral

Method: OECD Test Guideline 474

Result: negative GLP: yes

Components:

2-Pentanone, 4-methyl-, peroxide:

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

Test system: Salmonella typhimurium Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Human lymphocytes Method: OECD Test Guideline 473

Result: positive

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Method: OECD Test Guideline 476

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

GLP: yes

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Germ cell mutagenicity - : No known effect.

Assessment

Isobutyl methyl ketone:

Genotoxicity in vitro : Method: OECD Test Guideline 473

Result: negative

Method: OECD Test Guideline 476

Result: Equivocal

Method: OECD Test Guideline 471

Result: negative

Genotoxicity in vivo : Species: Mouse

Application Route: Intraperitoneal Method: OECD Test Guideline 474

Result: negative

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cyclohexyldimethylamine:

Germ cell mutagenicity -

Assessment

: Animal testing did not show any mutagenic effects.

Carcinogenicity

Suspected of causing cancer.

Product:

Remarks : This information is not available.

Components:

2-Pentanone, 4-methyl-, peroxide:

Remarks : This information is not available.

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Carcinogenicity - Assess-

ment

: No known effect.

Isobutyl methyl ketone:

Species : Mouse

Application Route : inhalation (vapour)

Exposure time : 2 Years NOAEL : 1.84 mg/l

Method : OECD Test Guideline 451
Result : Suspected of causing cancer.

Target Organs : Liver

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 2 Years NOAEL : 1.84 mg/l

Method : OECD Test Guideline 453
Result : Suspected of causing cancer.

Target Organs : Kidney

Carcinogenicity - Assess-

ment

Limited evidence of carcinogenicity in animal studies

cyclohexyldimethylamine:

Carcinogenicity - Assess-

ment

: Carcinogenicity classification not possible from current data.

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Species: Rat, male and female

Application Route: Oral

General Toxicity - Parent: NOAEL: 200 mg/kg body weight

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General Toxicity F1: NOAEL: 600 mg/kg body weight

Fertility: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 422

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Pre-natal Species: Rat, females

Application Route: Oral

General Toxicity Maternal: NOAEL: 65 mg/kg body weight Developmental Toxicity: NOAEL: 200 mg/kg body weight

Method: OECD Test Guideline 414

GLP: yes

Remarks: Based on data from similar materials

Components:

2-Pentanone, 4-methyl-, peroxide:

Effects on fertility : Species: Rat, male and female

Application Route: Oral

General Toxicity - Parent: NOAEL: 200 mg/kg body weight General Toxicity F1: NOAEL: 600 mg/kg body weight

Fertility: NOAEL: 600 mg/kg body weight Method: OECD Test Guideline 422

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Pre-natal

Species: Rat, females Application Route: Oral

General Toxicity Maternal: NOAEL: 65 mg/kg body weight Developmental Toxicity: NOAEL: 200 mg/kg body weight

Method: OECD Test Guideline 414

GLP: yes

Remarks: Based on data from similar materials

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Reproductive toxicity - As-

sessment

No known effect.

Isobutyl methyl ketone:

Effects on fertility : Test Type: Multi-generation study

Species: Rat

Application Route: inhalation (vapour)
General Toxicity - Parent: NOAEL: 4.1 mg/l
General Toxicity F1: NOAEL: 4.1 mg/l

Fertility: NOAEL: 8.1 mg/l

Method: OECD Test Guideline 416

Effects on foetal develop-

ment

Species: Rat

Application Route: Inhalation

General Toxicity Maternal: NOEC: 4.1 ppm

Teratogenicity: NOEC: 4.1 ppm Method: OECD Test Guideline 414

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Result: No teratogenic effects

cyclohexyldimethylamine:

Reproductive toxicity - As-

sessment

Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

STOT - single exposure

Not classified due to lack of data.

Components:

Isobutyl methyl ketone:

Target Organs : Central nervous system

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

cyclohexyldimethylamine:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

STOT - repeated exposure

Not classified due to lack of data.

Components:

Isobutyl methyl ketone:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

cyclohexyldimethylamine:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

2-Pentanone, 4-methyl-, peroxide:

Species : Rat, male and female NOAEL : 150 mg/kg bw/day

Exposure time : 90d

Method : OECD Test Guideline 408

GLP : yes

Remarks : Based on data from similar materials

Isobutyl methyl ketone:

Species : Rat

50 mg/kg

NOAEL : 250 mg/kg

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LOAEL : 1,000 mg/kg Application Route : oral (gavage)

Exposure time : 13 w

Method : OECD Test Guideline 408

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

2-Pentanone, 4-methyl-, peroxide:

May be fatal if swallowed and enters airways.

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

May be fatal if swallowed and enters airways.

Isobutyl methyl ketone:

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

cyclohexyldimethylamine:

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

Further information

Product:

Remarks : Solvents may degrease the skin.

Components:

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Remarks : May cause headache and dizziness.

SECTION 12: Ecological information

Ecotoxicity

Product:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.89 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: Information given is based on tests on the mixture

itself.

NOEC (Danio rerio (zebra fish)): 1.38 mg/l

Exposure time: 96 h

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Method: OECD Test Guideline 203

Remarks: Information given is based on tests on the mixture

itself.

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia (water flea)): 4.48 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Information given is based on tests on the mixture

itself.

NOEC (Daphnia magna (Water flea)): 2 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Information given is based on tests on the mixture

itself.

Toxicity to algae/aquatic

plants

EC50 (Raphidocelis subcapitata (freshwater green alga)):

1.33 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Information given is based on tests on the mixture

itself.

NOEC (Raphidocelis subcapitata (freshwater green alga)):

0.94 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Information given is based on tests on the mixture

itself.

Toxicity to microorganisms : EC10 (Bacteria): 12.8 mg/l

Test Type: Respiration inhibition of activated sludge

Method: OECD Test Guideline 209

Remarks: Information given is based on tests on the mixture

itself.

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

Components:

2-Pentanone, 4-methyl-, peroxide:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.89 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

NOEC (Danio rerio (zebra fish)): 1.38 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): 4.48 mg/l

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aquatic invertebrates Exposure time: 48 h

Method: OECD Test Guideline 202

NOEC (Daphnia magna (Water flea)): 2 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Raphidocelis subcapitata (freshwater green alga)):

1.33 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Raphidocelis subcapitata (freshwater green alga)):

0.94 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (Bacteria): 12.8 mg/l

Test Type: Respiration inhibition of activated sludge

Method: OECD Test Guideline 209

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia (water flea)): > 0.04 mg/l

Exposure time: 48 h

Remarks: Information given is based on data obtained from

similar substances.

Toxicity to algae/aquatic

plants

IC50 (algae): > 0.04 mg/l

Exposure time: 72 h

Remarks: Information given is based on data obtained from

similar substances.

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Isobutyl methyl ketone:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 179 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 200 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Lemna gibba (gibbous duckweed)): > 146 mg/l

End point: Growth rate

Method: OECD Test Guideline 221

EC10 (Lemna gibba (gibbous duckweed)): > 146 mg/l

Method: OECD Test Guideline 221

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Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 30 - 35 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 275 mg/l

Exposure time: 16 h

Method: DIN 38 412 Part 8

cyclohexyldimethylamine:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 31.58 mg/l

Exposure time: 96 h Test Type: static test Method: DIN 38412

Toxicity to daphnia and other :

aquatic invertebrates

LC50 (Daphnia magna (Water flea)): 75 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 3.5

mg/l

Exposure time: 72 h

Test Type: Growth inhibition Method: OECD Test Guideline 201

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.6

mg/l

Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (Pseudomonas putida): 137 mg/l

Exposure time: 17 h

Persistence and degradability

Product:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301D

Remarks: Information given is based on data on the compo-

nents and the ecotoxicology of similar products.

Components:

2-Pentanone, 4-methyl-, peroxide:

Biodegradability : Result: Readily biodegradable.

Method: OECD Test Guideline 301D

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Biodegradability : Result: Not readily biodegradable.

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Isobutyl methyl ketone:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 83 % Exposure time: 28 d

Method: OECD Test Guideline 301F

cyclohexyldimethylamine:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

2-Pentanone, 4-methyl-, peroxide:

Partition coefficient: n- : log Pow: 4.2 (20 °C)

octanol/water Method: OECD Test Guideline 117

Hydrocarbons, C4, 1,3-butadiene-free, polymerised., triisobutylene fraction, hydrogenated:

Partition coefficient: n- : log Pow: 5.94 - 6.16 (20 °C)

octanol/water Remarks: The value is calculated

Isobutyl methyl ketone:

Partition coefficient: n- : log Pow: 1.9

octanol/water

cyclohexyldimethylamine:

Bioaccumulation : Bioconcentration factor (BCF): 35.66

Remarks: Calculation

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal information

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 chemi-

cal or used container.

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Contaminated packaging : Dispose of in accordance with local regulations.

Clean container with water.

Dispose of contents/ container to an approved waste disposal

plant.

Empty remaining contents.

Dispose of as unused product.

Do not re-use empty containers.

Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information

International Regulations

UNRTDG

UN number : UN 3105

Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID

(METHYL ISOBUTYL KETONE PEROXIDE(S))

Class : 5.2

Packing group : Not assigned by regulation

Labels : 5.2 Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3105

Proper shipping name : Organic peroxide type D, liquid

(Methyl isobutyl ketone peroxide(s))

Class : 5.2

Packing group : Not assigned by regulation

Labels : Organic Peroxides, Keep Away From Heat

570

Packing instruction (cargo

aircraft)

Packing instruction (passen- : 570

ger aircraft)

IMDG-Code

UN number : UN 3105

Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID

(METHYL ISOBUTYL KETONE PEROXIDE(S))

Class : 5.2

Packing group : Not assigned by regulation

Labels : 5.2 EmS Code : F-J, S-R Marine pollutant : yes

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

Not applicable for product as supplied.

Hazchem Code : 2WE

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

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Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

Safety, health, and environmental regulations specific for the hazardous chemical

Gefahrgruppe nach TRGS 741: lb (German regulatory requirements)

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

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

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

DSL (CA) : All components of this product are on the Canadian DSL

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

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

SECTION 16: Other information

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Further information

Other information : This safety datasheet only contains information relating to

safety and does not replace any product information or prod-

uct 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 con-

tainer.

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 Agen-

cy, http://echa.europa.eu/

Date format : dd.mm.yyyy

Full text of other abbreviations

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ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

MY PEL : Malaysia. Occupational Safety and Health (Use and Stand-

ards of Exposure of Chemicals Hazardous to Health) Regula-

tions 2000.

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

MY PEL / TWA : Eight-hour time-weighted average airborne concentration

AllC - 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.

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