

SAFETY DATA SHEET



PYZERO 10EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2021/06/21	50001317	Date of first issue: 2021/06/21

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : PYZERO 10EC

Other means of identification : PYZERO 100EC
Metamifop 100 g/L EC
MATARI 10EC

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as herbicide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Agro Philippines, Inc.

Address : 5th Avenue cor. 26th Street,
Bonifacio Global City, Taguig City NCR 1634

Telephone : +63279443400

National Poison Control Center : U.P. PGH, Padre Faura, Manila (+63) 2 8524 1078
East Avenue, Quezon City (+63) 2 8928 0611
Southern Philippines Medical Center (+63) 82 227 2731
(formerly Davao Medical Center Davao City)

Emergency telephone : For leak, fire, spill or accident emergencies, call:
+(63) 2-395-3308 (CHEMTREC)

Medical emergency:
All other countries: +1 651 / 632-6793 (Collect)

2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2

Skin sensitization : Category 1

Carcinogenicity : Category 2

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

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Aspiration hazard : Category 1

Long-term (chronic) aquatic hazard : Category 2

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
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.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing 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 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

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P391 Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

Disposal:

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

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)
Oxirane, methyl-, polymer with oxirane, octyl ether	61827-84-7	>= 20 -< 30
Solvent naphtha (petroleum), heavy arom.	64742-94-5	>= 20 -< 25
2-ethylhexyl acetate	103-09-3	>= 10 -< 20
(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide	256412-89-2	>= 2.5 -< 10
acetophenone	98-86-2	>= 1 -< 10
calcium dodecylbenzenesulphonate	26264-06-2	>= 3 -< 10

4. FIRST AID MEASURES

General advice	: Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may appear several hours later. Do not leave the victim unattended.
If inhaled	: Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice.
In case of skin contact	: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	: Clean mouth with water and drink afterwards plenty of water.

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Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.

Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Fluorine compounds

Specific extinguishing methods : 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.

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 : Contain spillage, and then collect with non-combustible ab-

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containment and cleaning up sorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
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 : No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Solvent naphtha (petroleum), heavy arom.	64742-94-5	TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
acetophenone	98-86-2	TWA	10 ppm	ACGIH

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

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Hand protection Material	: Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Remarks	: The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	: Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	: Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: light brown
Odor	: aromatic
pH	: 6.4 - 7 Method: CIPAC MT 75
Flash point	: 64 °C
Density	: 0.96 g/cm ³ (20 °C)
Solubility(ies) Water solubility	: emulsifiable

10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed. Vapors may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.

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Incompatible materials : Strong oxidizing agents
Strong acids
Strong bases

Hazardous decomposition products : irritating gases

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): 3,659 mg/kg
Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Components:

Oxirane, methyl-, polymer with oxirane, octyl ether:

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

Solvent naphtha (petroleum), heavy arom.:

Acute oral toxicity : LD50 (Rat, male and female): > 5000 milligram per kilogram
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.688 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2000 milligram per kilogram
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

2-ethylhexyl acetate:

Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg
Acute dermal toxicity : LD50 (Guinea pig): > 17,400 mg/kg

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

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

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Acute inhalation toxicity : LC50 (Rat): > 2.61 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

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

acetophenone:

Acute oral toxicity : LD50 (Rat, male and female): 2,081 mg/kg

Acute dermal toxicity : LD50 (Rat, male and female): 3,300 mg/kg

calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1300 milligram per kilogram
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: see user defined free text

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes skin irritation.

Product:

Result : Moderate skin irritation

Remarks : May cause skin irritation and/or dermatitis.

Components:

Oxirane, methyl-, polymer with oxirane, octyl ether:

Species : Guinea pig
Method : OECD Test Guideline 404
Result : No skin irritation
Remarks : Based on data from similar materials

Solvent naphtha (petroleum), heavy arom.:

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

2-ethylhexyl acetate:

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

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(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Species	: Rabbit
Result	: No skin irritation

acetophenone:

Species	: Rabbit
Result	: No skin irritation

calcium dodecylbenzenesulphonate:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Result	: Moderate eye irritation
Remarks	: May cause irreversible eye damage.

Components:

Oxirane, methyl-, polymer with oxirane, octyl ether:

Species	: Rabbit
Result	: Irreversible effects on the eye
Method	: OECD Test Guideline 405
Remarks	: Based on data from similar materials

Solvent naphtha (petroleum), heavy arom.:

Species	: Rabbit
Result	: No eye irritation
Remarks	: Based on data from similar materials

2-ethylhexyl acetate:

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

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Species	: Rabbit
Result	: No eye irritation

acetophenone:

Species	: Rabbit
Result	: No eye irritation
Method	: Draize Test

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calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Species	:	Rabbit
Result	:	Irreversible effects on the eye
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:

Result	:	The product is a skin sensitizer, sub-category 1B.
Remarks	:	Causes sensitization.

Components:

Solvent naphtha (petroleum), heavy arom.:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

2-ethylhexyl acetate:

Test Type	:	Draize Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Result	:	May cause sensitization by skin contact.
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acetophenone:

Test Type	:	Draize Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitization.

calcium dodecylbenzenesulphonate:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406

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Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Oxirane, methyl-, polymer with oxirane, octyl ether:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Result: negative
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), heavy arom.:

Genotoxicity in vitro : Test Type: reverse mutation assay
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Cytogenetic assay
Species: Rat
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

2-ethylhexyl acetate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Result: negative
Remarks: Based on data from similar materials

Test Type: gene mutation test
Result: negative
Remarks: Based on data from similar materials

Test Type: in vitro DNA damage and/or repair study
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Chromosome aberration test in vitro
Species: Rat (male)
Application Route: Oral
Result: negative
Remarks: Based on data from similar materials

Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

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(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Result: negative

acetophenone:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: negative

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

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

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

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

calcium dodecylbenzenesulphonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat (male and female)
Application Route: Oral
Exposure time: 90 d
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

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Carcinogenicity

Suspected of causing cancer.

Components:

Solvent naphtha (petroleum), heavy arom.:

Species	: Mouse
Application Route	: Dermal
Exposure time	: 104 weeks
Result	: negative
Remarks	: Based on data from similar materials

Carcinogenicity - Assessment	: Limited evidence of carcinogenicity in animal studies
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2-ethylhexyl acetate:

Species	: Mouse, male and female
Application Route	: Oral
Exposure time	: 18 month(s)
Dose	: 0, 50, 200, 750 mg/kg bw/day
NOAEL	: 200 mg/kg bw/day
LOAEL	: 750 mg/kg bw/day
Method	: OECD Test Guideline 451
Result	: negative
Remarks	: Based on data from similar materials

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Species	: Rat, male and female
NOAEL	: 4.2 - 5.2
Result	: negative

Species	: Mouse, male and female
NOAEL	: 5.6 - 7.9
Result	: negative

calcium dodecylbenzenesulphonate:

Species	: Rat, male and female
Application Route	: Oral
Exposure time	: 720 d
NOAEL	: 250 mg/kg body weight
Result	: negative
Remarks	: Based on data from similar materials

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

Not classified based on available information.

Components:

Solvent naphtha (petroleum), heavy arom.:

Effects on fertility	: Test Type: Fertility
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Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 415
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

2-ethylhexyl acetate:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Dose: 0, 1231, 3845, 12308 milligram per kilogram
General Toxicity Parent: LOAEL: 12,308 mg/kg food
General Toxicity F1: NOAEL: 12,308 mg/kg food
Method: OECD Test Guideline 443
Result: negative

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Dermal
Dose: 252, 840, and 2520 mg/kg bw/d
General Toxicity Maternal: LOAEL: 2,520 mg/kg bw/day
Teratogenicity: NOAEL: 2,520 mg/kg bw/day
Developmental Toxicity: NOAEL: 2,520 mg/kg bw/day
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Test Type: Pre-natal
Species: Mouse, female
Application Route: Oral
Dose: 0, 17, 59, and 191 mg/kg bw/d
Duration of Single Treatment: 17 d
General Toxicity Maternal: NOAEL: 191 mg/kg bw/day
Developmental Toxicity: NOAEL: 191 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 191 mg/kg bw/day
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Effects on fertility : Species: Rat, male and female
General Toxicity Parent: NOEL: 1.7 - 8.4 mg/kg bw/day
Fertility: NOEL: 1.7 - 2.1 mg/kg bw/day
Early Embryonic Development: NOEL: 1.7 - 2.1 mg/kg bw/day
Result: negative

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Effects on fetal development : Species: Rat
General Toxicity Maternal: NOAEL: 10 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 10 mg/kg bw/day
Result: negative

Species: Rabbit
General Toxicity Maternal: NOAEL: 90 mg/kg bw/day
Embryo-fetal toxicity.: NOAEL: 90 mg/kg bw/day
Result: negative

acetophenone:

Effects on fertility : Test Type: one-generation reproductive toxicity
Species: Rat, male and female
Application Route: Oral
Dose: 0, 75, 225, 750 mg/kg bw/day
General Toxicity Parent: NOAEL: 750 mg/kg bw/day
General Toxicity F1: LOAEL: 750 mg/kg bw/day
Method: OECD Test Guideline 422
Result: negative

Test Type: one-generation reproductive toxicity
Species: Rat, female
Application Route: Oral
Dose: 0, 75, 225, 750 mg/kg bw/day
General Toxicity Parent: LOAEL: 750 mg/kg bw/day
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: Pre-natal
Species: Rat
Application Route: Oral
Dose: 125, 300, 750mg/kgbw/day
Duration of Single Treatment: 20 d
General Toxicity Maternal: LOAEL: 300 mg/kg bw/day
Embryo-fetal toxicity.: LOAEL: 300 mg/kg bw/day
Method: OECD Test Guideline 414

calcium dodecylbenzenesulphonate:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat, male and female
Application Route: Ingestion
General Toxicity Parent: NOAEL: 400 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 300 mg/kg body weight
Developmental Toxicity: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

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Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT-single exposure

May cause drowsiness or dizziness.

Components:

Solvent naphtha (petroleum), heavy arom.:

Assessment : May cause drowsiness or dizziness.

acetophenone:

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

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Solvent naphtha (petroleum), heavy arom.:

Species : Rat, male and female
NOAEL : 300 mg/kg
Application Route : Oral - gavage
Exposure time : 90 d
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 0.8 - 0.9 mg/l
Application Route : inhalation (vapor)
Exposure time : 12 m
Symptoms : Reduced body weight

2-ethylhexyl acetate:

Species : Mouse, male and female
NOEL : 125 mg/kg
NOAEL : 250 mg/kg bw/day
LOAEL : 500 mg/kg bw/day
Application Route : Oral - gavage
Exposure time : 90 d
Dose : 0, 25, 125, 250, 500mg/kg bw /
Method : OECD Test Guideline 408
Remarks : Based on data from similar materials

Species : Rat, male and female
Dose : 120 ppm
Application Route : inhalation (vapor)
Exposure time : 90 d
Dose : 0, 15, 40 and 120 ppm
Method : OECD Test Guideline 413
Remarks : Based on data from similar materials

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(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Species	: Rat, male and female
NOAEL	: 1.7 - 2 mg/kg
Application Route	: Ingestion
Exposure time	: 90 days

Species	: Mouse, male and female
NOAEL	: 7.4 - 9.8 mg/kg
Application Route	: Ingestion
Exposure time	: 90 days

Species	: Dog, male and female
NOAEL	: 30 mg/kg
Application Route	: Ingestion
Exposure time	: 90 days

acetophenone:

Species	: Rat, male and female
NOAEL	: 250 mg/kg bw/day
LOAEL	: 500 mg/kg bw/day
Application Route	: Oral - gavage
Exposure time	: 90 d
Method	: OECD Test Guideline 408

calcium dodecylbenzenesulphonate:

Species	: Rat, male and female
NOAEL	: 85 mg/kg
LOAEL	: 145 mg/kg
Application Route	: Oral
Exposure time	: 9 months
Remarks	: Based on data from similar materials

Species	: Rat, male and female
NOAEL	: 100 mg/kg
LOAEL	: 200 mg/kg
Application Route	: Oral
Exposure time	: 28 d
Method	: OECD Test Guideline 422
Remarks	: Based on data from similar materials

Species	: Rat, male
LOAEL	: 286 mg/kg
Application Route	: Skin contact
Exposure time	: 15 d
Remarks	: Based on data from similar materials

Aspiration toxicity

May be fatal if swallowed and enters airways.

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Components:**Solvent naphtha (petroleum), heavy arom.:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Further information**Product:**

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Oxirane, methyl-, polymer with oxirane, octyl ether:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l
Exposure time: 96 h
Method: DIN 38412
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC20 (activated sludge): > 1,000 mg/l
Exposure time: 30 min
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), heavy arom.:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 1.4 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL50 (Daphnia magna (Water flea)): 0.89 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : LL50 (Tetrahymena pyriformis): 677.9 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

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2-ethylhexyl acetate:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 8.27 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 22.9 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 21.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 10.3 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.185 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.288 mg/l
Exposure time: 48 h
- M-Factor (Acute aquatic toxicity) : 1
- M-Factor (Chronic aquatic toxicity) : 1
- Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1000 parts per million
- Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): >100
- LC50 (Colinus virginianus (Bobwhite quail)): > 1,043.3 mg/kg

acetophenone:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 162 mg/l
Exposure time: 96 h
Test Type: flow-through test
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 528 mg/l
Exposure time: 48 h
Test Type: static test

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Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (algae)): 24.8 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (green algae)): 40 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

calcium dodecylbenzenesulphonate:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 2.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
No toxicity at the limit of solubility.

EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
No toxicity at the limit of solubility.

Toxicity to fish (Chronic toxicity) : NOEC (Fish): 0.23 mg/l
Exposure time: 30 d
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia): 0.253 mg/l
Exposure time: 30 d
Method: QSAR

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

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Toxicity to terrestrial organisms : LD50 (Colinus virginianus (Bobwhite quail)): 1,356 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 223

Persistence and degradability

Components:

Oxirane, methyl-, polymer with oxirane, octyl ether:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Biodegradable
Biodegradation: 60 - 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301A
Remarks: Based on data from similar materials

Solvent naphtha (petroleum), heavy arom.:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

2-ethylhexyl acetate:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

acetophenone:

Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 64.7 %
Exposure time: 14 d
Method: OECD Test Guideline 301C

calcium dodecylbenzenesulphonate:

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

Bioaccumulative potential

Components:

Solvent naphtha (petroleum), heavy arom.:

Partition coefficient: n-octanol/water : log Pow: 2.4 - 6.5

2-ethylhexyl acetate:

Bioaccumulation : Bioconcentration factor (BCF): 202.4

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Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.2 (25 °C)

(2R)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]phenoxy]-N-(2-fluorophenyl)-N-methylpropanamide:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 5.45 (20 °C)
pH: 7

acetophenone:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 0.47
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 1.65

calcium dodecylbenzenesulphonate:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 70.79
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.77 (25 °C)

Mobility in soil

No data available

Other adverse effects

Product:

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

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

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

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14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Metamifop, Aromatic hydrocarbons)
Class	: 9
Packing group	: III
Labels	: 9

IATA-DGR

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (Metamifop, Aromatic hydrocarbons)
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
Environmentally hazardous	: yes

IMDG-Code

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Metamifop, Aromatic hydrocarbons)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

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

Not applicable for product as supplied.

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

Safety, health and environmental regulations/legislation specific for the substance or mixture

Priority Chemical List (PCL)	: Not applicable
Chemical Control Order (CCO)	: Not applicable

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

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AICS	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. (R)-2-[4-(6-CHLORO-1,3-BENZOXAZOL-2-YLOXY)PHENOXY]-2'-FLUORO-N-METHYLPROPIONANILIDE Oxirane, methyl-, polymer with oxirane, octyl ether
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory

16. OTHER INFORMATION

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AICS - Australian Inventory of Chemical Substances; 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 Chemi-

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icals 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; 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

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