



Reproductive toxicity : Category 2

Aspiration hazard : Category 1

GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H227 Combustible liquid.
H302 + H332 Harmful if swallowed or if inhaled.
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.
H361d Suspected of damaging the unborn child.

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.
P261 Avoid breathing 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 must not be allowed out of the workplace.
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 and soap.
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 Take off contaminated clothing and wash before reuse.



P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

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

Other hazards

Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
pethoxamid (ISO)	106700-29-2	46.9
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	>= 30 - < 50
ethyl lactate	97-64-3	>= 5 - < 10
benzoic acid	65-85-0	>= 5 - < 10
calcium dodecylbenzenesulphonate	26264-06-2	>= 1 - < 5

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.
- If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- 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 : Keep respiratory tract clear.



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- 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 : Exposure to skin may result in mild symptoms include itching, hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing. Harmful if swallowed or if inhaled. May be fatal if swallowed and enters airways. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of damaging the unborn child.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing. Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific personal protective equipment.
- Notes to physician : Treat symptomatically.

SECTION 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 : Hydrogen cyanide
Hydrogen chloride
Nitrogen oxides (NO_x)
Carbon oxides
Fire may produce irritating, corrosive and/or toxic gases.
Sulfur oxides
- Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
Use a water spray to cool fully closed containers.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
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 : Firefighters should wear protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
For disposal considerations see section 13.

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 : Contain spillage, and then collect with non-combustible absorbent 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.

SECTION 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 in a 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.

SECTION 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.; Kerosine — unspecified	64742-94-5	TWA	200 mg/m ³ (total hydrocarbon vapor)	ACGIH
benzoic acid	65-85-0	TWA (Inhalable fraction and vapor)	0.5 mg/m ³	ACGIH

Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- 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.
- Protective measures : Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.
 Ensure that eye flushing systems and safety showers are located close to the working place.
 Wear suitable protective equipment.
 In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.
- Hygiene measures : When using do not eat or drink.
 When using do not smoke.
 Wash hands before breaks and at the end of workday.



SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Form	:	emulsifiable concentrate
Color	:	yellow, brown
Odor	:	aromatic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	154.8 °F / 68.2 °C Method: Seta closed cup Based on data from similar materials
Evaporation rate	:	No data available
Self-ignition	:	No data available
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	:	No data available
Relative density	:	1.024 (68 °F / 20 °C) Method: OECD Test Guideline 109
Density	:	No data available
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available



Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	12.8 mPa.s (68 °F / 20 °C) Method: OECD Test Guideline 114 Based on data from similar materials
	:	7.4 mPa.s (ca. 104 °F / 40 °C) Method: OECD Test Guideline 114 Based on data from similar materials
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable

SECTION 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	:	None reasonably foreseeable. No decomposition if stored and applied as directed.
Conditions to avoid	:	Avoid extreme temperatures. Avoid formation of aerosol. Heat, flames and sparks.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat, female): 1,659 mg/kg Method: OECD Test Guideline 425
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Symptoms: hypoactivity, Diarrhea, Breathing difficulties
Remarks: Based on data from a similar product.

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.06 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Breathing difficulties, hypoactivity
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Based on data from a similar product.

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
Symptoms: Irritation
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from a similar product.

Components:

pethoxamid (ISO):

Acute oral toxicity : LD50 (Rat): 1,196 mg/kg
Method: US EPA Test Guideline OPPTS 870.1100
Assessment: The component/mixture is minimally toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 4.16mg/l
Method: US EPA Test Guideline OPPTS 870.1300
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: US EPA Test Guideline OPPTS 870.1200

Solvent naphtha (petroleum), heavy aroma.; Kerosine — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.688 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity



ethyl lactate:

- Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 423
Symptoms: Fatality
Assessment: The component/mixture is minimally toxic after single ingestion.
- Acute inhalation toxicity : LC50 (Rat): > 5.4 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

benzoic acid:

- Acute oral toxicity : LD50 (Mouse, male and female): 2,250 mg/kg
Method: OECD Test Guideline 401
- LD50 (Rat, male and female): 2,565 mg/kg
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC0 (Rat, male and female): 12.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: no mortality
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg

calcium dodecylbenzenesulphonate:

- Acute oral toxicity : LD50 (Rat, male and female): 1,300 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : Remarks: Not classified
- 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:

- Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : irritating
Remarks : Based on data from a similar product.
- Remarks : May cause skin irritation and/or dermatitis.



Components:

pethoxamid (ISO):

Species : Rabbit
Assessment : Slightly irritating
Method : US EPA Test Guideline OPPTS 870.2500
Result : Slightly irritating

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rabbit
Assessment : Repeated exposure may cause skin dryness or cracking.
Result : No skin irritation
Remarks : Minimal effects that do not meet the threshold for classification.
Based on data from similar materials

ethyl lactate:

Method : OECD Test Guideline 431
Result : Skin irritation

benzoic acid:

Species : Guinea pig
Exposure time : 3 h
Result : Skin irritation

calcium dodecylbenzenesulphonate:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species : Rabbit
Result : Eye irritation
Assessment : Irritating to eyes.
Method : OECD Test Guideline 405
Remarks : Based on data from a similar product.

Components:

pethoxamid (ISO):

Species : Rabbit
Result : Slightly irritating
Assessment : Slightly irritating
Method : US EPA Test Guideline OPPTS 870.2400



Solvent naphtha (petroleum), heavy aroma.; Kerosine — unspecified:

Species : Rabbit
Assessment : No eye irritation
Remarks : Minimal effects that do not meet the threshold for classification.
Based on data from similar materials

ethyl lactate:

Result : Irreversible effects on the eye
Method : OECD Test Guideline 437

benzoic acid:

Species : Rabbit
Result : Corrosive
Method : Regulation (EC) No. 440/2008, Annex, B.5

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

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

Product:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Dermal
Assessment : May cause sensitization by skin contact.
Method : OECD Test Guideline 429
Result : Causes skin sensitization.
Remarks : Based on data from a similar product.

Components:

pethoxamid (ISO):

Routes of exposure : Dermal
Species : Guinea pig
Method : US EPA Test Guideline OPPTS 870.2600
Result : May cause sensitization by skin contact.

Assessment : Harmful if swallowed.



May cause an allergic skin reaction.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Test Type : Maximization Test
Species : Guinea pig
Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

ethyl lactate:

Test Type : Direct Peptide Reactivity Assay (DPRA)
Method : OECD Test Guideline 442C
Result : Does not cause skin sensitization.

Test Type : Patch test
Result : Does not cause skin sensitization.

benzoic acid:

Test Type : Local lymph node assay (LLNA)
Species : Mouse
Result : Does not cause skin sensitization.

calcium dodecylbenzenesulphonate:

Test Type : Maximization Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

Germ cell mutagenicity

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

Components:

pethoxamid (ISO):

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Test Type: Mouse lymphoma assay
Metabolic activation: with and without metabolic activation
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: negative



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

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

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: Bone marrow chromosome aberration.
Species: Rat
Application Route: inhalation (vapor)
Result: negative

ethyl lactate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Test Type: Micronucleus test
Method: OECD Test Guideline 487
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 490
Result: negative

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

benzoic acid:

Genotoxicity in vitro : Test Type: Micronucleus test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 487
Result: negative

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster fibroblasts
Result: equivocal

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat (male)
Cell type: Bone marrow
Application Route: Ingestion
Exposure time: 96
Method: OECD Test Guideline 475
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.

Carcinogenicity

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

Components:

pethoxamid (ISO):

- Species : Rat
Application Route : Oral
Exposure time : 2 Years
NOAEL : 17 mg/kg bw/day
Result : negative
- Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

- Species : Rat, male and female
Application Route : inhalation (vapor)
Exposure time : 12 month(s)
NOAEC : 1.8 mg/l
Result : negative
Remarks : Based on data from similar materials
- Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

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



- IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
- NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

pethoxamid (ISO):

- Effects on fertility : Test Type: Two-generation study
Species: Rat
General Toxicity Parent: NOAEL: 14 mg/kg bw/day
Fertility: NOAEL: 114 mg/kg bw/day
Result: negative
- Effects on fetal development : Test Type: Developmental toxicity study
Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 75 mg/kg bw/day
Developmental Toxicity: NOAEL: 75 mg/kg bw/day
Symptoms: Maternal effects.
Result: negative
- Test Type: Developmental toxicity study
Species: Rabbit, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 50 mg/kg bw/day
Developmental Toxicity: NOEL: 50 mg/kg bw/day
Symptoms: Maternal effects.
Result: negative
- Reproductive toxicity - Assessment : Animal testing showed no reproductive toxicity.

ethyl lactate:

- Effects on fertility : Species: Rat
Application Route: Oral
General Toxicity Parent: NOAEL: 600 mg/kg bw/day
General Toxicity F1: NOAEL: < 75 mg/kg body weight
Target Organs: male reproductive organs
Method: OECD Test Guideline 422
- Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.



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

STOT-single exposure

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

Components:**pethoxamid (ISO):**

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

ethyl lactate:

- Assessment : May cause respiratory irritation.

STOT-repeated exposure

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

Components:**pethoxamid (ISO):**

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

Repeated dose toxicity**Components:****pethoxamid (ISO):**

- Species : Rat
NOAEL : 36.2 mg/kg bw/day
Application Route : Oral - feed
Exposure time : 90 days
Method : OECD Test Guideline 408
Remarks : Effects are of limited toxicological significance.



Repeated dose toxicity - Assessment : Harmful if swallowed.

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Species : Rat, male and female
NOAEC : 0.9 - 1.8 mg/l
Application Route : inhalation (vapor)
Exposure time : 12 months

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
LOAEL : 286 mg/kg
Application Route : Skin contact
Exposure time : 15 Days
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 100 mg/kg bw/day
LOAEL : 200 mg/kg bw/day
Application Route : Oral - gavage
Exposure time : 28 - 54 days
Method : OECD Test Guideline 422
Remarks : Based on data from similar materials

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

pethoxamid (ISO):

No aspiration toxicity classification

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Skin contact : Symptoms: Repeated exposure may cause skin dryness or cracking.



Neurological effects

Components:

pethoxamid (ISO):

No neurotoxicity observed in animal studies.

Further information

Product:

Remarks : Solvents may degrease the skin.

Remarks : Solvents may degrease the skin.

Components:

Solvent naphtha (petroleum), heavy aroma.; Kerosine — unspecified:

Remarks : Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: yes
Remarks: Based on data from a similar product.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
Remarks: Based on data from a similar product.

Toxicity to algae/aquatic plants : EyC50 (Selenastrum capricornutum (green algae)): 5.68 µg/l
Exposure time: 96 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: Based on data from a similar product.

NOEC (Selenastrum capricornutum (green algae)): 2.39 µg/m³



Exposure time: 96 h
Method: OECD Test Guideline 201
GLP: yes
Remarks: Based on data from a similar product.

NOEC (Lemna gibba (duckweed)): 3.24 µg/l
Exposure time: 7 d
Method: OECD Test Guideline 221
Remarks: Based on data from a similar product.

EyC50 (Lemna gibba (duckweed)): 7.32 µg/l
Exposure time: 7 d
Method: OECD Test Guideline 221
Remarks: Based on data from a similar product.

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Components:

pethoxamid (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

NOEC (Oncorhynchus mykiss (rainbow trout)): 1.7 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

LC50 (Lepomis macrochirus (Bluegill sunfish)): 6.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 - 25 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

NOEC (Daphnia magna (Water flea)): 17 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Selenastrum capricornutum (green algae)): 0.00195 mg/l
Exposure time: 72 h

EbC50 (Lemna minor (duckweed)): 0.0079 mg/l
Exposure time: 14 d
GLP: yes

ErC50 (Lemna minor (duckweed)): 0.018 mg/l
Exposure time: 14 d
GLP: yes



	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.004 mg/l Exposure time: 120 h Test Type: static test
	NOEC (Pseudokirchneriella subcapitata (green algae)): 0.0012 mg/l Exposure time: 120 h Test Type: static test
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus mykiss (rainbow trout)): 1.1 mg/l Exposure time: 28 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): 2.8 mg/l Exposure time: 21 d
Toxicity to microorganisms	: EC50 (Anabaena flos-aquae (cyanobacterium)): 9.4 mg/l Exposure time: 96 h
Toxicity to soil dwelling organisms	: LC50 (Eisenia fetida (earthworms)): 527 mg/kg Exposure time: 14 d Method: OECD Test Guideline 216 Remarks: No significant adverse effect on Nitrogen mineralization. Method: OECD Test Guideline 217 Remarks: No significant adverse effect on Carbon mineralization.
Toxicity to terrestrial organisms	: LD50 (Apis mellifera (bees)): 84.4 -120.5 End point: Acute oral toxicity LD50 (Apis mellifera (bees)): > 200 µg/bee End point: Acute contact toxicity LD50 (Colinus virginianus (Bobwhite quail)): ca. 1,500 - 2,100 mg/kg Method: EPA OPP 71-1
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:	
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
ethyl lactate:	
Toxicity to fish	: LC50 (Danio rerio (zebra fish)): 320 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia): 560 mg/l End point: Immobilization Exposure time: 48 h
Toxicity to algae/aquatic plants	: (algae): > 100 mg/l EC50 (algae): 417.339 mg/l Exposure time: 96 h Method: QSAR NOEC (algae): 1.71 mg/l Exposure time: 96 h Method: QSAR
Toxicity to microorganisms	: EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
benzoic acid:	
Toxicity to fish	: LC50 (Lepomis macrochirus (Bluegill sunfish)): 44.6 mg/l
Toxicity to daphnia and other aquatic invertebrates	: EC50: 100 mg/l Exposure time: 48 h
Toxicity to fish (Chronic toxicity)	: NOEC (Oncorhynchus mykiss (rainbow trout)): 120 mg/l
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: (Daphnia magna (Water flea)): 25 mg/l
Toxicity to microorganisms	: EC50 (Anabaena flos-aquae (cyanobacterium)): 1,000 mg/l
calcium dodecylbenzenesulphonate:	
Toxicity to fish	: LC50 (Danio rerio (zebra fish)): 10 mg/l Exposure time: 96 h



Method: OECD Test Guideline 203

Remarks: Based on data from similar materials

LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

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

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.65 mg/l
Exposure time: 21 d
Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 1.18 mg/l

Exposure time: 21 d

Remarks: Based on data from similar materials

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

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

Product:

Biodegradability : Remarks: Not readily biodegradable.

Components:

pethoxamid (ISO):

Biodegradability : Remarks: Not readily biodegradable.



Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

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

ethyl lactate:

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

benzoic acid:

Biodegradability : Inoculum: activated sludge
Biodegradation: 89.5 %
Exposure time: 35 d
Method: OECD Test Guideline 311

calcium dodecylbenzenesulphonate:

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

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

pethoxamid (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 2.96 (68 °F / 20 °C)
pH: 5

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Bioaccumulation : Remarks: The product/substance has a potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.72
Method: QSAR

ethyl lactate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 0.7



benzoic acid:

Partition coefficient: n-octanol/water : log Pow: 1.88

calcium dodecylbenzenesulphonate:

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

Partition coefficient: n-octanol/water : log Pow: 4.77 (77 °F / 25 °C)

Mobility in soil

Components:

pethoxamid (ISO):

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil :

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:

Distribution among environmental compartments : Remarks: Expected to partition to sediment and wastewater solids. Moderately volatile.

Other adverse effects

Product:

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

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATION

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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pethoxamid)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (Pethoxamid)
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. (Pethoxamid)
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.

Domestic regulation

49 CFR Road

UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171



Marine pollutant : yes

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

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

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

Clean Air Act

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

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

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

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

benzoic acid	65-85-0	>= 5 - < 10 %
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Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

benzoic acid	65-85-0	>= 5 - < 10 %
calcium dodecylbenzenesulphonate	26264-06-2	>= 1 - < 5 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

benzoic acid	65-85-0	>= 5 - < 10 %
calcium dodecylbenzenesulphonate	26264-06-2	>= 1 - < 5 %

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

This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

ethyl lactate	97-64-3
benzoic acid	65-85-0
calcium dodecylbenzenesulphonate	26264-06-2



Pennsylvania Right To Know

pethoxamid (ISO)	106700-29-2
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5
ethyl lactate	97-64-3
benzoic acid	65-85-0
Poly(oxy-1,2-ethanediyl), α -[tris(1-phenylethyl)phenyl]- ω -hydroxy-	99734-09-5
calcium dodecylbenzenesulphonate	26264-06-2

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California List of Hazardous Substances

benzoic acid	65-85-0
calcium dodecylbenzenesulphonate	26264-06-2

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.
AIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. 2-CHLORO-N-(2-ETHOXYETHYL)-N-(2-METHYL-1-PHENYLPROP-1-ENYL)ACETAMIDE
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

TECI : Not in compliance with the inventory

TSCA list

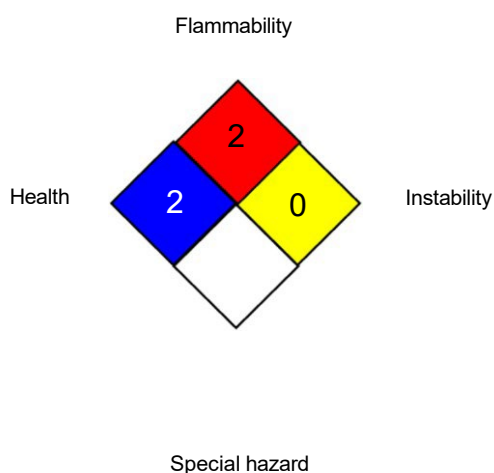
No substances are subject to a Significant New Use Rule.

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

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



0 No health threat, 1 Slightly Hazardous, 2 Hazardous, 3 Extreme danger, 4 Deadly

HMIS® IV:

HEALTH	*	3
FLAMMABILITY		2
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dan-



gerous 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

Disclaimer

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US / EN

End of Material Safety Data Sheet