Substance key: 000000609060	Revision Date: 09/22/2025
Version : 2 - 0 / USA	Date of printing :10/14/2025

SECTION 1. IDENTIFICATION

Identification of the company:	Clariant Corporation 500 East Morehead Street Charlotte, NC, 28202 Telephone No.: +1 704 331 7000 **Information of the substance/preparation:** Product Stewardship, +1-704-331-7710 e-mail: SDS.NORAM@clariant.com **Emergency tel. number:** +1 800-424-9300 CHEMTREC

Trade name: **Octopirox** **0025**
Material number: 290188

Chemical family: 1-Hydroxy-4-methyl-6-(2,4,4-trimethylpentyl)pyridine-2(1H)-one, compound with 2-aminoethanol (1:1)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Combustible dust

Skin irritation : Category 2

Serious eye damage : Category 1

Other hazards

None known.

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : May form combustible dust concentrations in air.
H315 Causes skin irritation.
H318 Causes serious eye damage.

Supplemental Hazard Statements : Corrosive to the respiratory tract.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P243 Take action to prevent static discharges.
Prevent dust accumulations to minimize explosion hazard.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Substance name : 1-Hydroxy-4-methyl-6-(2,4,4-trimethylpentyl)pyridine-2(1H)-one, compound with 2-aminoethanol (1:1)

CAS-No. : Not Assigned

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Piroctone Olamine	68890-66-4*	>= 80 - <= 100	TSC
Diethanolamine	111-42-2*	>= 0.1 - <= 1	TSC

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Remove/ Take off immediately all contaminated clothing.
Get medical advice/ attention if you feel unwell.

If inhaled : Move to fresh air.
If not breathing, give artificial respiration.

In case of skin contact : Wash off immediately with plenty of water.
Consult a physician.

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.
If swallowed	:	Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Rinse mouth with water. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	Causes skin irritation. Causes serious eye damage. Corrosive to the respiratory tract.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water mist Alcohol-resistant foam Dry powder Carbon dioxide (CO2)
Specific hazards during firefighting	:	Hazardous decomposition products formed under fire conditions. Carbon monoxide and carbon dioxide Nitrogen oxides (NOx)
Further information	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Avoid dust formation. Do not breathe dust. Use personal protective equipment. For disposal considerations see section 13.
Environmental precautions	:	Do not allow to enter drains or waterways
Methods and materials for containment and cleaning up	:	Sweep up and shovel. Pick up and arrange disposal without creating dust.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Dust can form an explosive mixture in air. Take precautionary measures against build-up of electrostatic charges, e.g earthing during loading and off-loading operations. Keep away from sources of ignition - No smoking. Potential dust explosion hazard.
Advice on safe handling	:	Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.
Conditions for safe storage	:	Keep container tightly closed in a cool, well-ventilated place.
Further information on storage conditions	:	Keep containers tightly closed in a cool, well-ventilated place.
Materials to avoid	:	No conditions to be specially mentioned.
Further information on storage stability	:	no data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Diethanolamine	111-42-2	TWA (Inhalable fraction and vapor)	1 mg/m3	ACGIH
		TWA	3 ppm 15 mg/m3	NIOSH REL
		TWA	3 ppm 15 mg/m3	OSHA P0

Engineering measures : Use ventilation adequate to keep exposures below recommended exposure limits. See the safety datasheet.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : not required under normal use
In the case of dust or aerosol formation use respirator with an approved filter.
Suitable mask with particle filter P3 (European Norm 143)
Applicable national Regulations must be observed. Take note of the limitations regarding wear-time, in conjunction with the Regulations for the use of Respiratory Protective Equipment.

Hand protection
Material : Protective gloves
Remarks : Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Depending on the risk, wear sufficient eye protection (safety glasses with side protection or goggles, and if necessary, face shield.)

Skin and body protection : Wear suitable protective clothing.

Protective measures : Avoid contact with the skin and the eyes.
Do not breathe dust.

Hygiene measures : Clean skin thoroughly after work; apply skin cream.
Take off immediately all contaminated clothing and wash it before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	white to light yellow
Odour	:	characteristic
pH	:	8.5 - 10.0 (68 °F / 20 °C)
Melting point	:	266 - 275 °F / 130 - 135 °C
Initial boiling point and boiling range	:	455 °F / 235 °C
Flash point	:	225 °F / 107 °C
Flammability (solid, gas)	:	May form combustible dust concentrations in air.
Upper explosion limit / upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	0.00017 Pa (68 °F / 20 °C) Method: OECD Test Guideline 104 By analogy with a product of similar composition

Relative vapour density	:	Not applicable
Density	:	1.1 g/cm3 (68 °F / 20 °C) Information taken from reference works and the literature.
Bulk density	:	0.30 - 0.35 kg/m3
Solubility(ies)		
Water solubility	:	< 0.001 g/l insoluble
Solubility in other solvents	:	Solvent: Methanol
Partition coefficient: n-octanol/water	:	log Pow: 3.86 (68 °F / 20 °C) Information taken from reference works and the literature.
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	no data available
Viscosity		
Viscosity, kinematic	:	Not applicable
Dust explosion class	:	not capable of dust explosion
Metal corrosion rate	:	Not applicable
Particle size	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	None known.
Incompatible materials	:	Strong acids Oxidizing agents
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon oxides Nitrogen oxides (NOx) Gaseous hydrogen chloride (HCl).

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Eye contact
Skin contact
Ingestion

Acute toxicity

Not classified

Product:

Acute oral toxicity	:	LD50 Oral (Rat): 8,100 mg/kg Method: OECD
Acute inhalation toxicity	:	LC50 (Rat): > 4.9 mg/l Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	Remarks: not tested.

Components:

Piroctone Olamine:

Acute oral toxicity	:	LD50 (Rat, female): 8,100 mg/kg Method: OECD Test Guideline 401 GLP: no Remarks: No significant adverse effects were reported LD50 (Dog, male and female): > 4,000 mg/kg Method: OECD Test Guideline 401 GLP: no
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 4.9 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402 GLP: yes Assessment: The substance or mixture has no acute dermal toxicity

Diethanolamine:

Acute oral toxicity	:	LD50 (Rat, male and female): 1,600 mg/kg Method: OECD Test Guideline 401 GLP: no

Acute inhalation toxicity	:	LC0 (Rat, male and female): > 0.2 mg/l Exposure time: 8 h Method: OECD Test Guideline 403 GLP: no Assessment: The substance or mixture has no acute inhalation toxicity Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Skin corrosion/irritation

Causes skin irritation.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	irritating

Components:

Piroctone Olamine:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.
GLP	:	yes

Diethanolamine:

Species	:	Rabbit
Exposure time	:	1 - 20 h
Method	:	OECD Test Guideline 404
Result	:	Irritating to skin.
GLP	:	no

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species	:	rabbit eye
Result	:	Risk of serious damage to eyes.
Method	:	FED. Reg. , Vol. 37, No. 38, 1972

Components:

Piroctone Olamine:

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.
Exposure time	:	5 min - 24 h
Method	:	Other

GLP : no

Diethanolamine:

Species : Rabbit
Result : Risk of serious damage to eyes.
Method : OECD Test Guideline 405
GLP : no

Respiratory or skin sensitisation

Skin sensitisation

Not classified

Respiratory sensitisation

Not classified

Product:

Species : Guinea pig
Method : OECD Test Guideline 406
Result : non-sensitizing

Components:

Piroctone Olamine:

Test Type : Buehler Test
Exposure routes : Dermal
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
GLP : no

Test Type : Guinea pig maximization test
Species : Guinea pig
Method : Magnusson/Kligman
Result : Not a skin sensitizer.
GLP : no

Test Type : Patch Test 24 Hrs.
Species : Humans
Method : tests on human beings

Assessment : Causes skin irritation., Causes serious eye damage.

Diethanolamine:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.
GLP : yes

Assessment : Harmful if swallowed., Causes skin irritation., Causes serious eye damage.

Germ cell mutagenicity

Not classified

Product:

Genotoxicity in vitro : Method: Ames test
Result: negative

Germ cell mutagenicity - Assessment : No information available.

Components:

Piroctone Olamine:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Concentration: 2 - 500 µg/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: no

Test Type: In vitro gene mutation study in mammalian cells
Test system: Chinese hamster lung cells
Concentration: 0,05 - 250 µg/ml
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male)
Cell type: Bone marrow cells
Application Route: Intraperitoneal injection
Exposure time: <= 4 d
Dose: 15,6 - 31,3 - 62,5 - 125 mg/kg
Method: OECD Test Guideline 474
Result: negative
GLP: no

Test Type: Cytogenetic assay
Species: Chinese hamster (male and female)
Cell type: Bone marrow cells
Application Route: oral (gavage)
Exposure time: single application
Dose: 3500 mg/kg
Method: OECD Test Guideline 475
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment	:	In vivo tests did not show mutagenic effects, In vitro tests did not show mutagenic effects

Diethanolamine:

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Concentration: 125 - 4000 µg/plate Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative GLP: no Test Type: In vitro gene mutation study in mammalian cells Test system: mouse lymphoma cells Concentration: 25 - 600 µg/ml Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative GLP: yes Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative GLP: No information available.
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (male and female) Strain: B6C3F1 Cell type: Erythrocytes Application Route: Dermal Exposure time: 13 w Dose: 80 - 1250 mg/kg Method: OECD Test Guideline 474 Result: negative GLP: yes
Germ cell mutagenicity - Assessment	:	In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

Carcinogenicity

Not classified

Product:

Carcinogenicity - Assessment	:	No information available.

Components:

Piroctone Olamine:

Carcinogenicity - Assessment	:	No information available.

Diethanolamine:

Species	:	Mouse, male and female
Application Route	:	Dermal
Exposure time	:	103 w
Dose	:	40 - 80 - 160 mg/kg
Control Group	:	yes
Frequency of Treatment	:	once daily, 5 days/week
	:	40 mg/kg body weight
Method	:	OECD Test Guideline 451
GLP	:	yes
Carcinogenicity - Assessment	:	Carcinogenicity classification not possible from current data.

IARC Group 2B: Possibly carcinogenic to humans
Diethanolamine 111-42-2

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 component 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

Not classified

Product:

Reproductive toxicity - Assessment	:	No information available.
		No information available.

Components:

Piroctone Olamine:

Effects on fertility	:	Test Type: Fertility Species: Rat, male and female Strain: Sprague-Dawley Application Route: Subcutaneous Dose: 0 - 20 - 50 - 100 - 500 mg/kg Duration of Single Treatment: > 63 d General Toxicity - Parent: NOAEL: >= 100 mg/kg body weight General Toxicity F1: NOAEL: >= 500 mg/kg body weight Method: Other GLP: yes

Effects on foetal development	:	Test Type: Pre-natal Species: Rabbit, female Application Route: oral (gavage) Dose: 16 - 32 - 63 mg/kg Duration of Single Treatment: 12 d Frequency of Treatment: 1 daily General Toxicity Maternal: NOEL: > 63 mg/kg body weight Teratogenicity: NOEL: > 63 mg/kg body weight Method: OECD Test Guideline 414 GLP: yes
Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Diethanolamine:

Effects on fertility	:	Test Type: Two-generation study Species: Rat, male and female Application Route: oral (feed) Dose: 100 - 300 - 1000 mg/kg General Toxicity - Parent: NOAEL: 300 mg/kg body weight General Toxicity F1: NOAEL: 1,000 mg/kg body weight General Toxicity F2: NOAEL: 1,000 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes Remarks: By analogy with a product of similar composition
Effects on foetal development	:	Test Type: Pre-natal Species: Rat, female Strain: Sprague-Dawley Application Route: Dermal Dose: 150 - 380 - 500 - 1500 mg/kg Duration of Single Treatment: 9 d General Toxicity Maternal: LOAEL: 150 mg/kg body weight Teratogenicity: NOAEL: > 1,500 mg/kg body weight Method: OECD Test Guideline 414 GLP: No information available. Test Type: Pre-natal Species: Rat, female Strain: wistar Application Route: Inhalation Dose: 10 - 50,2 - 202 mg/m3 Duration of Single Treatment: 9 d General Toxicity Maternal: NOAEL: 0.05 mg/l Teratogenicity: NOAEL: >= 0.2 mg/l Method: OECD Test Guideline 414 GLP: yes Test Type: reproductive and developmental toxicity study Species: Rat Strain: Sprague-Dawley

Application Route: oral (gavage)
Dose: 50-125-200-250-300 mg/kg
Duration of Single Treatment: 13 d
General Toxicity Maternal: NOAEL: 50 mg/kg body weight
Developmental Toxicity: NOAEL: 50 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 50 mg/kg body weight
Method: Other
GLP: No information available.

Test Type: Pre-natal
Species: Rabbit
Strain: New Zealand white
Application Route: Dermal
Dose: 35, 100, 350 mg/kg bw/day
Duration of Single Treatment: 12 d
General Toxicity Maternal: NOAEL: 35 mg/kg body weight
Teratogenicity: NOAEL: > 350 mg/kg body weight
Method: OECD Test Guideline 414
GLP: No information available.

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - single exposure

Corrosive to the respiratory tract.

Product:

Remarks : not tested.

Components:

Piroctone Olamine:

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

Diethanolamine:

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

STOT - repeated exposure

Not classified

Product:

Remarks : not tested.

Components:

Piroctone Olamine:

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

Diethanolamine:

Target Organs	:	Liver, Blood, Kidney, Nervous system
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Product:

Species	:	Rat
NOAEL	:	100 mg/kg
Exposure time	:	90 d
Method	:	OECD Test Guideline 408

Components:

Piroctone Olamine:

Species	:	Rat, male and female
NOAEL	:	>= 100 mg/kg bw/day
Application Route	:	oral (gavage)
Exposure time	:	90 d
Number of exposures	:	daily, 5 days per week
Dose	:	40 - 100 - 250 mg/kg
Control Group	:	yes
Method	:	OECD Test Guideline 408
GLP	:	No information available.

Species	:	Dog, male and female
NOEL	:	>= 100 mg/kg bw/day
Application Route	:	oral (feed)
Exposure time	:	90 d
Number of exposures	:	daily
Dose	:	16 - 40 - 100 mg/kg
Control Group	:	yes
Method	:	OECD Test Guideline 409
GLP	:	no

Species	:	Rat, male and female
NOEL	:	>= 100 mg/kg bw/day
Application Route	:	Subcutaneous
Exposure time	:	5 wk
Number of exposures	:	daily
Dose	:	100 - 500 - 2000 mg/kg
Control Group	:	yes
Subsequent observation period	:	2 Wochen
Method	:	OECD Test Guideline 410
GLP	:	no

Repeated dose toxicity - Assessment	:	Causes skin irritation., Causes serious eye damage.

Diethanolamine:

Species	:	Rat, male
LOAEL	:	25 mg/kg
Application Route	:	Drinking water
Exposure time	:	13 w
Number of exposures	:	daily
Dose	:	320-630-1250-2500-5000 ppm
Control Group	:	yes
Method	:	OECD Test Guideline 408
GLP	:	yes

Species	:	Rat, females
LOAEL	:	14 mg/kg
Application Route	:	Drinking water
Exposure time	:	13 w
Number of exposures	:	daily
Dose	:	160, 320, 630, 1250, 2500 ppm
Control Group	:	yes
Method	:	OECD Test Guideline 408
GLP	:	yes

Species	:	Rat, male and female
NOAEL	:	0.015 mg/l
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	13 w
Number of exposures	:	6 h/day, 5 days/week
Dose	:	15.2; 153.4; 409.7 mg/m³
Control Group	:	yes
Method	:	OECD Test Guideline 413
GLP	:	yes

Species	:	Rat, male and female
LOAEL	:	32 mg/kg
Application Route	:	Dermal
Exposure time	:	13 w
Number of exposures	:	once daily, 5 days/week
Dose	:	0, 32, 63, 125, 250, 500 mg/kg
Control Group	:	yes
Method	:	OECD Test Guideline 411
GLP	:	yes

Repeated dose toxicity - Assessment	:	Harmful if swallowed., Causes skin irritation., Causes serious eye damage.

Aspiration toxicity

Not classified

Components:

Piroctone Olamine:

No aspiration toxicity classification

Diethanolamine:
No aspiration toxicity classification

Further information

Product:

Remarks : The product itself has not been tested.
Information taken from reference works and the literature.

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

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 6.7 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50: 583 mg/l
Method: OECD Test Guideline 209

Components:

Piroctone Olamine:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 1.89 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

NOEC (Danio rerio (zebra fish)): 0.89 mg/l
End point: mortality
Exposure time: 96 h
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.8 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes NOEC (Daphnia magna (Water flea)): 0.889 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 10.8 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes ErC10 (Desmodesmus subspicatus (green algae)): 6.3 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 201 GLP: yes
Toxicity to fish (Chronic toxicity)	:	Remarks: not tested.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.128 mg/l End point: Reproduction rate Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes EC50 (Daphnia magna (Water flea)): 0.324 - 1.255 mg/l End point: Reproduction rate Exposure time: 21 d Test Type: semi-static test Analytical monitoring: yes Method: OECD Test Guideline 211 GLP: yes
Toxicity to microorganisms	:	EC50 (activated sludge): 538 mg/l End point: Bacteria toxicity (growth inhibition)

Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

Toxicity to soil dwelling organisms : Test Type: artificial soil
NOEC (Eisenia fetida (earthworms)): >= 1,000 mg/kg
Exposure time: 56 d
End point: Reproduction
Method: OECD Test Guideline 222
GLP: yes

Test Type: artificial soil
NOEC (Folsomia candida): 250 mg/kg
Exposure time: 28 d
End point: mortality
Method: ISO 11267
GLP: yes

Plant toxicity : NOEC: 500 mg/kg
End point: Growth
Test period: 21 d
Species: Avena sativa (oats)
Analytical monitoring: no
Method: OECD Test Guideline 208
GLP: yes

NOEC: 1,000 mg/kg
End point: Growth
Test period: 21 d
Species: Brassica napus
Analytical monitoring: no
Method: OECD Test Guideline 208
GLP: yes

NOEC: 500 mg/kg
End point: Growth
Test period: 21 d
Species: Glycine max (G. soja)
Analytical monitoring: no
Method: OECD Test Guideline 208
GLP: yes

Sediment toxicity : NOEC (Nematode Caenorhabditis elegans): 250 mg/kg dry weight (d.w.)
Analytical monitoring: no
Duration: 96 h
Sediment: Artificial sediment
Method: Draft ISO/DIS 10872 (2008)
GLP: yes

NOEC (Lumbriculus variegatus (Worm)): 250 mg/kg dry weight (d.w.)

Analytical monitoring: yes
Duration: 28 d
Sediment: Artificial sediment
Method: OECD Test Guideline 225
GLP: yes

Ecotoxicology Assessment

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

Diethanolamine:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 460 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: no data available
Method: Other
GLP: yes

LC50 (Pimephales promelas (fathead minnow)): 1,370 - 1,550 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: no
Method: Other
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 30 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: no
Method: Other
GLP: No information available.

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 9.5 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no data available
Method: Other
GLP: yes

ErC10 (Pseudokirchneriella subcapitata (green algae)): 1.1 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: no data available
Method: Other

GLP: yes

Toxicity to fish (Chronic toxicity) : Remarks: no data available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.05 mg/l
End point: Reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: yes
Method: Other
GLP: yes

Toxicity to microorganisms : EC20 (activated sludge, domestic): > 1,000 mg/l
End point: Bacteria toxicity (respiration inhibition)
Exposure time: 0.5 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: no
Remarks: The details of the toxic effect relate to the nominal concentration.

Toxicity to soil dwelling organisms : Test Type: artificial soil
EC50 (Eisenia andrei (red worm)): 776 mg/kg
Exposure time: 63 d
End point: Reproduction
Method: Other
GLP: no

Ecotoxicology Assessment

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

Persistence and degradability

Product:

Biodegradability : Biodegradation: > 80 %
Method: OECD Test Guideline 302B

Components:

Piroctone Olamine:

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 16.6 mg/l
Carbon dioxide (CO2)
Result: Not readily biodegradable.
Biodegradation: 6 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: yes

Physico-chemical removability	:	Remarks: Can be eliminated from water by precipitation. Remarks: Biodegradable
Stability in water	:	Test Type: abiotic Remarks: Hydrolyses slowly.
Photodegradation	:	Test Type: water Light source: Xenon lamp Light spectrum: 290 - 800 nm Rate constant: 3,1 1/h Degradation (direct photolysis): 50 % Degradation half life: 0.22 h Method: OECD Test Guideline 316 GLP: yes Remarks: pH4 Test Type: water Light source: Xenon lamp Light spectrum: 290 - 800 nm Rate constant: 1,25 1/h Degradation (direct photolysis): 50 % Degradation half life: 0.55 h Method: OECD Test Guideline 316 GLP: yes Remarks: pH9 Test Type: air Remarks: Decomposes rapidly in contact with light. Test Type: Soil Remarks: Decomposes rapidly in contact with light.

Diethanolamine:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 100 mg/l Biochemical Oxygen Demand (BOD) Result: Readily biodegradable. Biodegradation: 93 % Exposure time: 28 d Method: OECD Test Guideline 301F GLP: yes

Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: not tested.

Components:

Piroctone Olamine:

Bioaccumulation	:	Remarks: Due to the low logPow bioaccumulation is not expected
Partition coefficient: n-octanol/water	:	log Pow: 3.86 (68.9 °F / 20.5 °C) pH: 4 Method: OECD Test Guideline 107 GLP: yes

Diethanolamine:

Bioaccumulation	:	Remarks: Low potential for bioaccumulation (log Pow < 3).
Partition coefficient: n-octanol/water	:	log Pow: -2.46 (77 °F / 25 °C) pH: 6.8 - 7.3 Method: OECD Test Guideline 107 GLP: no

Mobility in soil

Product:

Distribution among environmental compartments	:	Remarks: not tested.

Components:

Piroctone Olamine:

Distribution among environmental compartments	:	adsorption Medium: water - soil log Koc: 3 - 5.4 Method: OECD Test Guideline 106

Diethanolamine:

Mobility	:	Remarks: Known distribution to environmental compartments
Distribution among environmental compartments	:	Adsorption/Soil Medium: water - soil log Koc: 0.98 - 1 Method: calculated

Other adverse effects

Product:

Environmental fate and pathways	:	Remarks: no data available
Additional ecological information	:	The product itself has not been tested. Information taken from reference works and the literature.

Components:

Piroctone Olamine:

Environmental fate and pathways : not available

Additional ecological information : The product should not be allowed to enter drains, water courses or the soil.

Diethanolamine:

Environmental fate and pathways : not available

Additional ecological information : Do not allow to enter ground water, waterways or waste water.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

RCRA - Resource Conservation and Recovery Authorization Act : This product, if discarded as sold, is not a Federal RCRA hazardous waste.

Waste Code : NONE

Waste from residues : In accordance with local authority regulations, take to special waste incineration or chemical/physical treatment plant

Contaminated packaging : Regulations concerning reuse or disposal of used packaging materials must be observed.

SECTION 14. TRANSPORT INFORMATION

DOT not restricted

IATA not restricted

IMDG not restricted

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Diethanolamine	111-42-2	100	20000

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 : Combustible dust
Skin corrosion or irritation
Serious eye damage or eye irritation

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 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).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
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

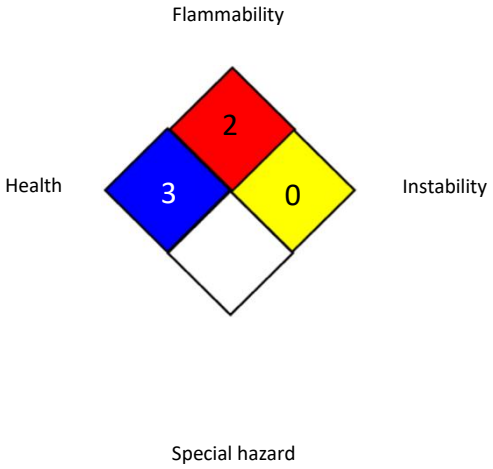
The components of this product are reported in the following inventories:

TSCA : This product is not listed on the TSCA Inventory. It is to be used as a cosmetic ingredient only. Any other use will subject the user to penalties under the Toxic Substances Control Act and the regulations issued thereunder.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / 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 Harmonised 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 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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 - Organisation 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

Observe national and local legal requirements
Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Revision Date : 09/22/2025

This information corresponds to the present state of our knowledge and is intended as a general description of our products and their possible applications. Clariant makes no warranties, express or implied, as to the information’s accuracy, adequacy, sufficiency or freedom from defect and assumes no liability in connection with any use of this information. Any user of this product is responsible for determining the suitability of Clariant's products for its particular application. NO EXPRESS OR IMPLIED WARRANTY IS MADE OF THE MERCHANTABILITY, SUITABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE OF ANY PRODUCT OR SERVICE. Nothing included in this information waives any of Clariant’s General Terms and Conditions of Sale, which control unless it agrees otherwise in writing. Any existing intellectual/industrial property rights must be observed. Due to possible changes in our products and applicable national and international regulations and laws, the status of our products could change. Material Safety Data Sheets providing safety precautions, that should be observed when handling or storing Clariant products, are available upon request and are provided in compliance with applicable law. You should obtain and review the applicable Material Safety Data Sheet information before handling any of these products. For additional information, please contact Clariant.

US / EN