

Substance key: 000000811878

Revision Date: 08/22/2022

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SECTION 1. IDENTIFICATION**Identification of the company:**

Clariant Plastics & Coatings
(Deutschland) GmbH
Frankfurt am Main, 65926
Telephone No.: +49 69 305 18000

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: Exolit OP 1230 Terra REDcert2
Material number: 315523
CAS number: 225789-38-8
Primary product use: Flame retardants
Chemical family: organic phosphorus salt

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Combustible dust

GHS label elements

Signal word : Warning

Hazard statements : May form combustible dust concentrations in air.

Precautionary statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
No smoking.
P233 Keep container tightly closed.
P243 Take precautionary measures against static discharge.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Pure substance
Substance name : organic phosphorus salt
CAS-No. : 225789-38-8

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Components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

- If inhaled : Move the victim to fresh air.
Give oxygen or artificial respiration if needed.
Get immediate medical advice/ attention.
Never give anything by mouth to an unconscious person.
- In case of skin contact : Wash thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.
- In case of eye contact : Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
Do not give anything to drink.
Call a physician immediately.
- Most important symptoms and effects, both acute and delayed : The possible symptoms known are those derived from the labelling (see section 2).
No additional symptoms are known.
- Notes to physician : None known.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : gaseous extinguishing media
- Specific hazards during firefighting : In case of fires, hazardous combustion gases are formed:
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Phosphorus oxides (eg Phosphorus pentoxide)
- Emits toxic fumes under fire conditions. This product presents no unusual fire or explosion hazards while sealed in a shipping container. During usage, if a dust cloud is generated, organic powders have the potential to be explosive with static spark or flame initiation.
- Further information : Exercise caution when fighting any chemical fire. Use NIOSH approved self-contained breathing apparatus and full protective clothing.
- Special protective equipment : Self-contained breathing apparatus

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for firefighters

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Do not breathe dust.
Avoid contact with skin and eyes.
Wear personal protective equipment. Unprotected persons must be kept away.
Wearing appropriate personal protective equipment, contain spill and collect into a suitable container.
- Environmental precautions : Do not let product enter drains.
Retain and dispose of contaminated wash water.
- Methods and materials for containment and cleaning up : Pick up mechanically. Rinse away rest with water.
Avoid dust formation.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Dust can form an explosive mixture in air.
Keep away sources of ignition.
Avoid dust formation.
Avoid dust accumulation in enclosed space.
In areas with dust explosion hazard: maximum surface temperature of 310 °C (according DIN EN 50281-2-1).
- Advice on safe handling : Avoid dust formation. Keep away from sources of ignition.
Lead off electrostatic charges.
Avoid inhalation, ingestion and contact with skin and eyes.
Wash thoroughly after handling.
- Further information on storage conditions : Store in original container.
Keep container tightly closed.
Store in a cool, dry, well-ventilated area.
- Further information on storage stability : The product must not be stored above 100 °C.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

- Engineering measures** : Local ventilation recommended - mechanical ventilation may be used.

Personal protective equipment

- Respiratory protection : Use NIOSH/MSHA approved respirators following manufacturer's recommendations where dust or fume may be generated.

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Hand protection Remarks	:	Butyl Rubber, PVC Or Neoprene.
Eye protection	:	Safety glasses with side-shields
Skin and body protection	:	Wear protective clothing, including long sleeves and gloves, to prevent skin contact.
Protective measures	:	Do not breathe dust. Avoid contact with skin. Avoid contact with eyes.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Clean skin thoroughly after work; apply skin cream.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	powder
Colour	:	white
Odour	:	not specified
Odour Threshold	:	Not applicable
pH	:	approx. 5 (68 °F / 20 °C) Concentration: 10 g/l Suspension in water
Decomposition temperature	:	>= 572 °F / 300 °C Method: DTA
Boiling point/boiling range	:	Not applicable Decomposes below the boiling point.
Flash point	:	Not applicable
Flammability (solid, gas)	:	not determined
Self-ignition	:	> 500 °F / > 260 °C Method: VDI 2263 (Grewer) GLP: no 878 °F / 470 °C Method: DIN EN 50281-2-1 Dust cloud ignition at a hot surface.

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Method: Expert judgement
The substance or mixture is not classified as pyrophoric.

Burning number	:	1 Method: VDI 2263-1 Does not catch fire
Vapour pressure	:	Not applicable
Density	:	1.35 g/cm ³ (73 °F / 23 °C) Method: 92/69/EEC, A.3.
Bulk density	:	400 - 600 kg/m ³ (68 °F / 20 °C)
Solubility(ies) Water solubility	:	1.6 g/l (68 °F / 20 °C) GLP: no
Partition coefficient: n- octanol/water	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	> 572 °F / > 300 °C Heating rate: 5 K/min Decomposes before melting.
Viscosity Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Method: Expert judgement
Impact sensitivity	:	Not impact sensitive.
Dust explosion class	:	St1
Minimum ignition energy	:	> 100 mJ (68 °F / 20 °C) Method: Mike 3 apparatus
Particle size	:	24 µm

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	See section 10.3. "Possibility of hazardous reactions"
Chemical stability	:	Stable under normal conditions.

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Possibility of hazardous reactions	:	Dust can form an explosive mixture in air. Stable
Conditions to avoid	:	Temperatures exceeding thermal stability. High concentration of powders. Electrostatic charges.
Incompatible materials	:	none
Hazardous decomposition products	:	No decomposition if used as directed.

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	Remarks: no data available
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation**Product:**

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

Serious eye damage/eye irritation**Product:**

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

Respiratory or skin sensitisation**Product:**

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

Germ cell mutagenicity**Product:**

Genotoxicity in vitro	:	Test Type: Ames test Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471
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Result: negative

Test Type: Mammalian cell gene mutation assay
 Test system: Chinese hamster fibroblasts
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 476
 Result: negative

Test Type: Chromosome aberration test in vitro
 Test system: Chinese hamster fibroblasts
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 473
 Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
 Species: Mouse (male and female)
 Strain: NMRI
 Application Route: Oral
 Method: OECD Test Guideline 474

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

Carcinogenicity**Product:**

Carcinogenicity - Assessment : No information available.

IARC No component 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 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**Product:**

Effects on fertility : Test Type: One generation study
 Species: Rat, male and female
 Strain: wistar
 Application Route: oral (gavage)
 Dose: 100, 300, 1000 mg/kg bw/d
 General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight
 General Toxicity F1: NOAEL: 1,000 mg/kg body weight
 Method: OECD Test Guideline 443

Effects on foetal development : Test Type: reproductive and developmental toxicity study
 Species: Rat
 Strain: wistar

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Application Route: oral (gavage)
Dose: 100, 300, 1000 mg/kg bw
General Toxicity Maternal: NOAEL: \geq 1,000 mg/kg body weight
Embryo-foetal toxicity: NOAEL: \geq 1,000 mg/kg body weight
Method: OECD Test Guideline 414

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

STOT - single exposure**Product:**

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

STOT - repeated exposure**Product:**

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

Repeated dose toxicity**Product:**

Species : Rat, male and female
NOAEL : 1000 mg/kg bw/day
Application Route : oral (gavage)
Exposure time : 28
Dose : 62,5, 250, 1000 mg/kg bw
Method : OECD Test Guideline 407

Aspiration toxicity**Product:**

no data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : LC50 (Danio rerio (zebra fish)): $>$ 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Method: Regulation (EC) No. 440/2008, Annex, C.1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): $>$ 100 mg/l
End point: mortality
Exposure time: 48 h
Test Type: static test

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Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 180 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Method: Regulation (EC) No. 440/2008, Annex, C.3

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 100 mg/l
Exposure time: 28 d
Test Type: semi-static test
Method: OECD Test Guideline 215

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): ca. 10 mg/l
End point: Reproduction rate
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

Toxicity to microorganisms : NOEC (activated sludge): 483 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Persistence and degradability**Product:**

Biodegradability : Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 1 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil**Product:**

Distribution among environmental compartments : adsorption
Koc: 0.38, log Koc: -0.42
Method: OECD Test Guideline 121

Other adverse effects

no data available

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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- RCRA - Resource Conservation and Recovery Act
Waste Code : This product, if discarded as sold, is not a Federal RCRA hazardous waste.
: NONE
- Waste from residues : Dispose of spilled or waste product, contaminated soil and other contaminated materials in licensed landfill or treatment facility in accordance with all local, state, and federal regulations.
- Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

SECTION 14. TRANSPORT INFORMATION

- DOT not restricted
- IATA not restricted
- IMDG not restricted

SECTION 15. REGULATORY INFORMATION**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA 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 : Combustible dust

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 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:

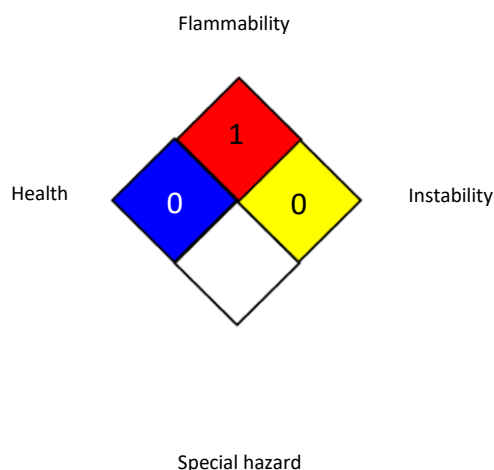
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TSCA : On TSCA Inventory, All components are compliant with the TSCA Inventory Notification (Active) rule.

SECTION 16. OTHER INFORMATION**Further information****NFPA 704:****Full text of other abbreviations**

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 Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; 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;

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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

Handle with care. Organic dusts have the potential to be explosive with static spark or flame initiation.

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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.

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