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SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**
· **Trade name: DERPHALIN® DISTILLE**
· **Substance name according to REACH identification requirements:**
Oligomerisation products of alpha-pinene and beta-pinene
· **EC/list number:** List number : 701-463-8
· **REACH Registration number:** 01-2120767482-48-0000
· **UFI:** Not relevant as this product is a substance

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Relevant identified uses: production and distribution of the substance, formulation, lacquers and varnishes, coatings, printing inks, co-formulating in agrochemistry, adhesives, fuel.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
LES DERIVES RESINIQUES ET TERPENIQUES (DRT)
30 rue Gambetta
BP 90206
F-40105 DAX CEDEX
FRANCE
Tel: 33-(0)5 58 56 62 00
Email: fds@drt.fr

· **1.4 Emergency telephone number**
NCEC (24/24 – 7/7):
From Europe : +44 1235 239670 (involves operator intervention to identify language)
Others countries : See section 16

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008:**
Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008:**
The substance is classified and labelled according to the CLP regulation.
· **Hazard pictograms** Void
· **Signal word:** Void
· **Hazard statements:**
H413 May cause long lasting harmful effects to aquatic life.
· **Precautionary statements:**
P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Information concerning to particular hazards to man and environment:**
Hot molten product: Burns may cause irreversible eye injury and blindness. Causes skin burns

· **2.3 Other hazards** Hot molten product: may burn if ignited.
· **Results of PBT and vPvB assessment**
· **PBT:**
According to Annex XIII of REACH Regulation, the substance is not considered to be Persistent, Bioaccumulative and Toxic.

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· **vPvB:**
According to Annex XIII of REACH Regulation, the substance is not considered to be very Persistent and very Bioaccumulative.
· **Determination of endocrine-disrupting properties**
The substance is not included in the list established in accordance with Article 59(1) of REACH regulation for having endocrine disrupting properties, and is not a substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

· **3.1 Substances** UVCB
· **Identification number(s)**
· **EU list number:** List number : 701-463-8
· **Description:**
REACH name: Oligomerisation products of alpha-pinene and beta-pinene

alternative names:
alpha-pinene and beta-pinene oligomers
terpenic oligomers

Associated CAS:
CAS name: Bicyclo[3.1.1]hept-2-ène, 2,6,6-triméthyl-, polymère avec 6,6-diméthyl-2-méthylènebicyclo[3.1.1]heptane
CAS 31393-98-3

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **After inhalation:**
Supply fresh air. If symptoms are experienced, get medical attention.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Product at ambient temperature:
Immediately rinse with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritations occurs.
Hot product:
Immediately immerse or flush the burn area with large amounts of cold water (at least 15 minutes). Do not remove solidified material from burned skin as the damaged skin can be easily torn. Transfer immediately to hospital.
· **After eye contact:**
Product at ambient temperature:
Immediately rinse with water. Remove contact lenses if present and easy to do. Hold eyelids apart and flush eyes with plenty of cool low-pressure water for several minutes. Il symptoms persist, consult a doctor.
Hot product:
Do not open eyelids if covered with resins. Immediately flush eyes with large amounts of water for at least 15 minutes. Do not remove solidified material from burned eye as the damaged tissues can be easily torn. Transfer immediately to hospital.
· **After swallowing:**
Do not induce vomiting. If the person is conscious, immediately rinse out mouth with water.
- No adverse health effects are expected from accidental ingestion of small amounts of this product. In case of lasting symptoms, consult a doctor.

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- For ingestion of large amounts: do not induce vomiting and get medical attention.

· **4.3 Indication of any immediate medical attention and special treatment needed**
For doctors: Mineral oil may be used to loosen and soften the material.

SECTION 5: Firefighting measures

· **5.1 Suitable extinguishing agents**
Foam
Carbon dioxide (CO_2)
Water spray
· **5.2 Special hazards arising from the substance or mixture** In case of fire, may release irritant and acrid fumes.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Firefighters should wear appropriate protective equipment and self-contained breathing apparatus.
· **Additional information:** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear appropriate personal protective equipment. Keep unprotected persons away.
Provide adequate ventilation.
· **6.2 Environmental precautions**
Do not allow product to reach soil, waterways, drains and sewers.
Inform the relevant authorities if the product has caused environmental pollution (soil, waterways, drains or sewers).
· **6.3 Methods and material for containment and cleaning up**
Small spills:
Absorb spilled liquid with inert absorbent. Collect in an appropriate container properly labelled. Close it for disposal.
Large spills:
Stop spill if it can be done without danger. Dike. Pump as much liquid as possible with an explosion-proof pump or a hand pump. Absorb the remaining liquid with inert absorbent. Collect in an appropriate container properly labelled. Close it for disposal.
· **6.4 Reference to other sections**
See section 8 for information on personal protection equipment.
See section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Wear appropriate personal protective equipment. Provide adequate ventilation in the workplace.
· **Information about fire - and explosion protection:**
Protect against electrostatic charges.
Use only non-sparking tools.
Protect from heat.
Keep ignition sources away.
· **7.2 Conditions for safe storage**
Store if possible under cover in a dry, cool and well-ventilated area.
Protect from heat and direct sunlight.
All equipments including ventilation systems must be equipotential and earthed.

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Store only in the original container.
Keep container tightly sealed.
· **Further information about storage conditions:**
· **Recommended storage temperature:** Store at a temperature between 5 and 30°C.
· **7.3 Specific end use(s)** None

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Components with limit values that require monitoring at the workplace:** None

· **DNEL (Derived No-Effect Level): Workers - Long-term exposure**
Systemic effects - dermal : 5.03 mg/kg bw/d
Systemic effects - inhalation : 17.7 mg/m3

· **DNEL (Derived No-Effect Level): General population - Long-term exposure**
Systemic effects - dermal : 1.8 mg/kg bw/d
Systemic effects - inhalation : 3.13 mg/m3
Systemic effects - oral : 1.8 mg/kg bw/d

· **PNECs** hazard for predators: PNEC oral: 79.89 mg/kg food

· **PNEC (Predicted No-Effect Concentration) aqua (freshwater):** no data: aquatic toxicity unlikely
· **PNEC (Predicted No-Effect Concentration) aqua (marine water):** no data: aquatic toxicity unlikely
· **PNEC (Predicted No-Effect Concentration) Sewage Treatment Plant:** no hazard identified
· **PNEC (Predicted No-Effect Concentration) sediment (freshwater):** 1.56 mg/kg sediment dw
· **PNEC (Predicted No-Effect Concentration) sediment (marine water):** 0.156 mg/kg sediment dw
· **PNEC (Predicted No-Effect Concentration) soil:** 3.086 mg/kg soil dw

· **Additional information:**
This sheet is based on the current valid lists for occupational exposure limit values at the time of its preparation.

· **8.2 Exposure controls**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Immediately remove all soiled and contaminated clothing.
Avoid contact with eyes and skin.
· **Personal protective equipment**
· **Respiratory protection:**
In case of insufficient ventilation:
Avoid breathing vapors by wearing an appropriate filter cartridge mask.
· **Hand protection**
Protective gloves resistant to chemicals (standard EN 374-1). They should be replaced regularly and if there is any indication of degradation or chemical breakthrough.
· **Eye/face protection** Safety glasses (standard EN 166)
· **Body protection:**
Protective work clothing.
Personnel exposed to HOT MOLTEN or HOT LIQUID material should wear protective clothing that provides protection against thermal burns.
· **Risk management measures**
Further information on how to manage the risks arising from dusts and from hot resins:
- HARRPA guidance - SAFE HANDLING OF HOT ROSIN/RESINS
- HARRPA guidance - RESIN DUST EXPLOSION RISKS

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http://www.harrpa.eu/

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Physical state**	Liquid @ 20 °C
· **Form:**	Viscous liquid
· **Colour:**	Yellow-slightly amber coloured
· **Odour:**	Odourless
· **Odour threshold:**	Not applicable
· **Change in condition**	
· **Melting/freezing point:**	No Melting point is observed. However a glass transition is observed.
· **Boiling point or initial boiling point and boiling range**	320 °C (OECD 103 @ 1013.25 hPa)
· **Softening point / range:**	-47,7 to -42,8 °C (glass transition) DSC based on OECD 102
· **Flammability**	Not determined.
· **Flash point:**	157 closed cup °C (at 1013.25 hPa) Method A9, Reg. (EC) No 440/2008
· **Auto-ignition temperature:**	255 °C (@978.0 hPa) Method A15, Reg. (EC) No 440/2008
· **Decomposition temperature:**	Not determined
· **pH**	Not determined
· **Viscosity**	
· **Dynamic at 25 °C:**	160 mPa.s (like ISO 2555 / OECD 114)
· **Solubility**	
· **In water at 20 °C:**	< 5 µg/L Slow stirring method adapted from OCDE 123
· **Partition coefficient n-octanol/water (log value) at 25 °C**	7,41 - 8,02 log Pow (OECD 117)
· **Vapour pressure at 25 °C:**	0,722 Pa (QSAR - Epi Suite)
· **Density and/or relative density**	
· **Relative density at 20 °C:**	0,95 (OECD 109)
· **Vapour density**	Not determined.
· **Explosive properties:**	The substance does not contain any chemical groups associated with explosive properties.
· **Melting range:**	
· **Pour point**	22 °C (based ISO 3016)
· **Oxidising properties**	The substance does not contain any chemical groups associated with oxidizing properties.
· **Oxidising properties:**	
· **Evaporation rate**	Not determined
· **9.2 Other information**	No other data

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SECTION 10: Stability and reactivity

· **10.1 Reactivity** No data from specific reactivity tests are available for this product or this class of product.
· **10.2 Chemical stability**
Product stable under storage and handling conditions according to specifications (see section 7).
· **10.3 Possibility of hazardous reactions:** No decomposition if used according to specifications.
· **10.4 Conditions to avoid** Keep away from heat and sources of ignition.
· **10.5 Incompatible materials** Strong acids, strong oxidizing agents, strong reducing agents
· **10.6 Hazardous decomposition products** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **LD_{50}/LC_{50} values relevant for classification:** LD50 oral (OECD 423) > 2000 mg/kg

· **Skin corrosion/irritation:**
The substance was considered to be non-irritant to the skin in an in vitro skin irritation test : Reconstructed Human Epidermis (RHE) Test Method, conducted in accordance with the OECD test guideline 439.
· **Serious eye damage/irritation:**
The substance was considered to be non-irritant and non-corrosive to the eyes in an in vitro skin irritation/corrosion test : Reconstructed human Cornea-like Epithelium (RhCE) test method for identifying chemicals not requiring classification and labelling for eye irritation or serious eye damage, conducted in accordance with the OECD test guideline 492.
Based on available data, the classification criteria are not met.
· **Skin sensitisation:**
Four in vivo sensitisation studies were conducted to evaluate the sensitisation potential of alpha-pinene and betapinene oligomers. Three of the four studies resulted in a non-sensitising outcome, however, the LLNA Brd-U study,
concluded that under the experimental conditions, alpha-pinene and beta-pinene oligomers resulted in a sensitising outcome.
A thorough review of the available data from all four studies was conducted by external toxicologists to understand why there was a conflicting outcome.
It was concluded that alpha-pinene and beta-pinene oligomers are considered not to have skin sensitisation potential and subsequently does not require classification for skin sensitisation potential accordingly to Regulation EC No. 1272/2008.
· **Mutagenicity/genotoxicity:**
No mutagenicity was observed in several in vitro assays:
- in bacteria (Ames test carried out according to OECD guideline 471);
- in mammalian cells (Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene
– test carried out according to OECD guideline 490).
No genotoxicity was observed in vitro with structurally related substances:
- in a chromosome aberration test in human lymphocytes (test carried out according to OECD guideline 473).
· **Carcinogenicity:**
The product is not expected to be carcinogenic: no mutagenic effects were observed with the substance and there is no evidence from the repeated dose toxicity study that the substance is able to induce hyperplasia or pre-neoplastic lesions.
· **Specific target organ toxicity - single exposure:**
No specific target organ toxicity leading to classification was observed in the LD_{50} determination studies.

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· **Specific target organ toxicity - repeated exposure:**
The systemic toxic potential of Terpenic Oligomers was assessed in a 13 week dietary study in rats performed according to OECD Guideline 408 under GLP compliance. Recovery from any effects was also evaluated during a 4 week recovery period. Three groups, each comprising ten male and ten female Crl:CD (SD) rats, received Terpenic Oligomers via the diet at concentrations of 800, 2000 or 5000 ppm. The overall achieved doses during Weeks 1-13 at 800, 2000 and 5000 ppm were 55, 151 and 331 mg/kg/day for males and 62, 158 and 388 mg/kg/day for females, respectively.
The dietary administration of Terpenic Oligomers to Sprague Dawley rats at doses of 800, 2000 or 5000 ppm for 13 weeks provided clear evidence of systemic exposure but none of the effects observed were deemed to be adverse. Therefore, the No Observed Adverse Effect Level (NOAEL) was considered to be 5000 ppm, equivalent to 331 mg/kg bw/day for males and 388 mg/kg bw/day for females.
Further details are provided in the summary of the REACH registration dossier which is available on the ECHA website.
· **Aspiration hazard:** No aspiration hazard expected.
· **11.2 Information on other hazards**
· **Endocrine disrupting properties**
The substance is not included in the list established in accordance with Article 59(1) of REACH regulation for having endocrine disrupting properties, and is not a substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/210056 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

· **12.1 Aquatic toxicity**
Aquatic toxicity values have been determined in tests conducted with water-accommodated fractions (WAFs). This method was developped for slightly soluble substances; the initial loading rate of the substance is well higher than the solubility in water. LL and EL , similar to LC and EC , are obtained.
OCDE testing 202
Daphnids were exposed to WAFs of the test item at a nominal loading rate of 1.0 mg.L-1 test item (well above the water solubility of the test item). Due to the very low solubility of the test item in test water, it was not possible to quantify and detect the presence of test item in the limit test loading rate of 1.0 mg.L-1. However, due to the complex nature of the WAF and since the test item was a UVCB substance, the results were based on the nominal test loading rates.
EL and EL (48h), daphnid (Daphnia magna): > 1.0 mg/L (based on nominal test item loading - OECD 202)
NOEL (48h), daphnid (Daphnia magna): > 1.0 mg/L (based on nominal test item loading - OECD 202)
OCDE testing 211
Daphnids were exposed to Water Accommodated Fractions (WAFs) of the test item over a range of nominal loading values of 10, 32, 100, 316 and 1000 µg/L. Due to the very low solubility of the test item in water, it was not possible to quantify and detect the presence of the test item in the lowest loading rates, despite the use of acetone for the preparation of WAFs. Nevertheless, the test item was detected in the highest loading rates, and even quantified (>LOQ) at 316 and 1000 µg/L, but since control solutions were outside the tolerance limits those values cannot be considered as valid. Given the complex nature of the WAF and since the test item was a UVCB substance, the results were based on nominal loading rates.
After 21 days, the NOELR value determined for the most sensitive endpoint cumulative number of offspring was 316µg/L. The NOELR was observed at levels far above the water solubility of the test item and is not interpreted as pelagic toxicity.
Further details are provided in the summary of the REACH registration dossier which is available on the ECHA website
· **Terrestrial toxicity:**
Sediment toxicity
A Sediment-WaterLumbriculusToxicity Test Using Spiked Sediment (based on OECD guideline No. 225) was performed to assess the effects of a chronic exposure to test item TERPENIC OLIGOMERS on sediment-dwelling

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aquatic oligochaeteLumbriculus variegatus. The evaluation was based on nominal concentrations (.25, 62.50, 125.00,250.00 and 500.00 mg test item/kg dry sediment,). After 28 days, the NOEC for parameter "total number of surviving worms" was 62.5 mg/kg and for parameter "biomass" (dry weight), the NOEC was determined to be at least 500 mg/kg.

· **12.2 Persistence and degradability**
During a ready biodegradability testing – Closed bottles – conducted in accordance with OECD test guideline 301 D, the mean biodegradation was 4% within the 28 day period. Under the test conditions, the substance was not considered as readiliy biodegradable.

· **Other information:**
Based on QSARs modeling, the main constituents in the substance, i.e. Terpene dimers, trimers, tetramers and pentamers are potentially Persistent (P/vP).
Note:
None of the constituents fulfil the criteria for all three inherent properties P, B and T or both inherent properties vP and vB, respectively, and so they cannot be classified as PBT nor vPvB

· **12.3 Bioaccumulative potential**
Based on QSARs modeling (calculated BCF values), the constituents (such as dimers, trimers, tetramers and pentamers) are likely to be not Bioaccumulative (not B/vB).

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:**
According to Annex XIII of REACH Regulation, the substance is not considered to be Persistent, Bioaccumulative and Toxic.

· **vPvB:**
According to Annex XIII of REACH Regulation, the substance is not considered to be very Persistent and very Bioaccumulative.

· **12.6 Endocrine disrupting properties**
The substance is not included in the list established in accordance with Article 59(1) of REACH regulation for having endocrine disrupting properties, and is not a substance identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/210056 or Commission Regulation (EU) 2018/605.

· **12.7 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods** National and regional regulations have to be adhered to.
· **Recommendation:** The product has to be disposed of in an authorised incinerator, according to regulation.
· **Uncleaned packaging**
· **Recommendation:** Packaging has to be sent to an authorised waste treatment facility, for recycling or disposal.

SECTION 14: Transport information

· **14.1 UN number or ID number**	Not classified as a dangerous good under transport regulation.
· **14.2 UN proper shipping name**	Not classified as a dangerous good under transport regulation.
· **ADR**	Void

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· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA** · **Class**	Not classified as a dangerous good under transport regulation.
· **14.4 Packing group**	Not applicable.
· **14.5 Environmental hazards**	Not classified as a dangerous good under transport regulation.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **UN "Model Regulation"**	Void

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Regulation (EC) No 1907/2006 (REACH):
The product does not contain any of the substances included in the following lists
- Annex XIV (authorisation) / substances of very high concern (SVHC)
- Annex XVII (restrictions)
Directive 2012/18/EU:
The product does not fulfill the criteria of the hazard categories listed in Annex I Part 1 and is not listed in Part 2.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is not listed.
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
· **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.

· **15.2 Chemical safety assessment**
A Chemical Safety Assessment has been carried out.
The annex is available on request.

SECTION 16: Other information

Information provided in this safety data sheet is based on our experience and present knowledge. It is a description of safety requirements and data given on the product and cannot be considered as specifications. They shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. This safety datasheet is provided only for information as it is not required according to article 31 of REACH regulation.

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· **Emergency telephone numbers (other countries):**
NCEC In-Country Numbers (24/24 - 7/7):
Global / English speaking countries : +44 1865 407333
Middle East/Africa : +44 1235 239671* (English, Arabic, French, Portuguese, Farsi)
Americas : +1 215 207 0061* (English, Spanish, French, Portuguese)
East/South East Asia : +65 3158 1074* (English, Bengali, Cantonese, Indonesian, Hindi, Japanese, Korean, Malay, Mandarin, Sinhalese, Urdu, Tagalog, Thai, Vietnamese)
Europe : +44 1235 239670*
*(involves operator intervention to identify language)

· **Version number of previous version:** 3.1

· **Abbreviations and acronyms:**
CLP: Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging
H4R : Hydrocarbon Resins & Rosin Resins REACH Consortium - https://h4rconsortium.com
ECHA: European CHemicals Agency
EC: European Commission
ISO : International Organization for Standardization
Directive 2012/18/EU: Directive of the European Parliament and of the Council of 4 July, on the control of major-accident hazards involving dangerous substances
IFRA : International Fragrance Association
OECD: Organisation for Economic Co-operation and Development
ECVAM : European Centre for the Validation of Alternative Methods
QSAR: Quantitative Structure Activity Relationship
DNA: DeoxyriboNucleic Acid
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: very Persistent and very Bioaccumulative substance.
UVCB: Substances of unknown or variable composition, complex reaction products or biological materials
SVHC: Substances of Very High Concern
BCF: Bioconcentration Factor
CMR: Substance classified as Carcinogenic, Mutagenic or Toxic for Reproduction
Koc: Organic carbon/water partition coefficient. It represents the potential of retention of the substance on soil organic matter
NOEL: No Observed Effect Level
NOELr: Initial loading rate of the substance without observed effect
NOAEL: No Observed Adverse Effect Level
NOEC: No Observed Effect Concentration
NOAEC: No Observed Adverse Effect Concentration
LOEC: Lowest Observed Effect Concentration
LOAEC: Lowest Observed Adverse Effect Concentration
LOAEL: Lowest Observed Adverse Effect Level
EC_{10}: Concentration which leads to a 10% reduction in treated organism responses compared to untreated organism responses (algae) or concentration which causes effects to 10 % of the tested organisms (daphnids)
EC_{50}: Concentration which leads to a 50% reduction in treated organism responses compared to untreated organism responses (algae) or concentration which causes effects to 50 % of the tested organisms (daphnids)
EL_{50} : Loading rate which leads to a 50 % reduction in treated organisms responses compared to untreated organism responses (algae) or loading rate which causes effects to 50 % of the tested organisms (daphnids)
LC_{50}: Lethal concentration for 50% of exposed animals
LD_{50}: Lethal dose for 50% of animals exposed by oral or dermal route
LL_{50}: Median lethal loading rate (lethal level for 50 % of fish exposed)
LC100 : Lethal concentration for 100% of exposed animals
GPMT: Guinea Maximisation Test - Magnusson and Kligman test
LLNA: Local Lymph Node Assay
CO_2: Carbon dioxide
NLP: No Longer Polymer
bw: body weight
dw: dry weight
ww : wet weight
ppm : parts per million
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

· **Sources:**
Literature and company data

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REACH dossier data

· **Modified data compared to the previous version:**
The SDS has been updated according to Regulation (EU) 2020/878 , amending Annex II of Regulation (EC) No 1907/2006 (change of sections: 1, 2, 3, 9, 11, 12, 14).

· **Annex:** on request at the following address, fds@drt.fr

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