Tpcm™ 780SP

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This Safety Data Sheet adheres to the standards and regulatory requirements of Great Britain and may not meet the regulatory requirements in other countries.

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

1.1. Product identifier

Product name : Tpcm™ 780SP

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : For industrial use only.

1.3. Details of the supplier of the safety data sheet

Company : Du Pont (UK) Limited
4th Floor, Kings Court, London Road
Stevenage, Herts.
SG1 2NG
United Kingdom

Telephone : +44 (0) 1438 734 000

Supplier : LAIRD s.r.o.
Prumyslova 497, Liberec, 46312, Czech Republic

Telephone : +420-488-575-111

E-mail address : laird.orders-emea@dupont.com

1.4. Emergency telephone number

+(44)-870-8200418 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2. Label elements

H411	Toxic to aquatic life with long lasting effects.
P273	Avoid release to the environment.
P391	Collect spillage.
P501	Dispose of contents/ container to an approved waste disposal plant.
Special labelling of certain substances and mixtures	EUH208 Contains: Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−. May produce an allergic reaction.

The following percentage of the mixture consists of ingredient(s) with unknown acute oral toxicity: 1.2778 %
The following percentage of the mixture consists of ingredient(s) with unknown acute dermal toxicity: 3.1503 %
The following percentage of the mixture consists of ingredient(s) with unknown acute inhalation toxicity: 3.1503 %

The following percentage of the mixture consists of ingredient(s) with unknown hazards to the aquatic environment: 3.1503 %

2.3. Other hazards

Endocrine disrupting properties (human health):
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine disrupting properties (environment):
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

PBT and vPvB assessment:
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Identification number	Component	Classification according to Regulation (EU) 1272/2008 (CLP)	Specific concentration limit/ M-Factors/ Acute toxicity estimate	%
CAS-No. 7429-90-5 **EC-No.** 231-072-3 **Index-No.** 013-002-00-1 **REACH No.** -	Aluminium powder (stabilised)	Flam. Sol. 1; H228 Water-react. 2; H261	Oral ATE: > 15,900 mg/kg Inhalation ATE: > 0.888 mg/l (dust/mist)	>= 30< 50 %
CAS-No. 1314-13-2 **EC-No.** 215-222-5 **Index-No.** 030-013-00-7	Zinc oxide	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	M-Factors: 1[Acute] 1[Chronic] Oral ATE: > 5,000 mg/kg Inhalation ATE: > 5.7 mg/l (dust/mist)	>= 30< 50 %

REACH No. 01-2119463881-32			Dermal ATE: > 2,000 mg/kg	
CAS-No. 64742-48-9 **EC-No.** - **Index-No.** - **REACH No.** -	Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)	Skin Irrit. 2; H315 Asp. Tox. 1; H304	Oral ATE: > 5,000 mg/kg Dermal ATE: > 2,200 mg/kg	>= 1< 10 %
CAS-No. 110675-26-8 **EC-No.** 438-600-3 **Index-No.** - **REACH No.** -	Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−	Skin Sens. 1B; H317	Oral ATE: > 5,000 mg/kg Dermal ATE: > 2,000 mg/kg	>= 0.1< 1 %

The above products are compliant to REACH registration obligations; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). First Aid responders should pay attention to self-protection and use the recommended protective clothing. Remove from exposure, lie down.

Inhalation : Is not an expected route of exposure under normal conditions. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Keep person calm. If symptoms persist, call a physician. If unconscious, place in recovery position and get medical attention immediately. Keep respiratory tract clear.

Skin contact : Take off contaminated clothing and shoes immediately. Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse. Thoroughly clean shoes before reuse.

Eye contact : If easy to do, remove contact lens, if worn. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

Ingestion : Rinse mouth. Call a physician immediately. Do NOT induce vomiting. Place unconscious person on the side in the recovery position and ensure open airways. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms	:	May irritate skin.
	:	May irritate eyes.
	:	May cause irritation of the mucous membranes.
	:	For further information see Section 11.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment	:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Symptoms may be delayed for several hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Dry powder, Sand
Extinguishing media which shall not be used for safety reasons	:	Water, Carbon dioxide (CO2), Foam

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	Material will burn. May release toxic and/or hazardous fumes and gases. Dust may form explosive mixture in air. Do not allow run-off from fire fighting to enter drains or water courses. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

5.3. Advice for firefighters

Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.
Further information	:	In the event of fire and/or explosion do not breathe fumes. Evacuate personnel to safe areas.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Keep unnecessary and unprotected personnel from entering. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8. Control access to area. Avoid contact with the skin and the eyes. Evacuate

personnel to safe areas. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Remove all sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. If the material is involved in a fire, or if dusts are produced, no action shall be taken involving any personal risk or without suitable training. Avoid breathing dust.

6.2. Environmental precautions

Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities. Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal. For disposal instructions see section 13. Large spills should be collected mechanically (remove by pumping) for disposal. Eliminate all ignition sources if safe to do so. Move it to a safe place. Do not touch spilled material. Avoid dust formation. Wet wipe or vacuum up using a high efficiency particulate air (HEPA) vacuum. Use explosion proof equipment. Do not dry sweep dust accumulation.

Other information : Dispose of in accordance with local regulations.

6.4. Reference to other sections

For personal protection see section 8., For disposal instructions see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : For personal protection see section 8. Handle in accordance with good industrial hygiene and safety practice. Provide adequate ventilation. Use personal protective equipment as required. Wash hands thoroughly after handling. Take precautionary measures against static discharges. Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy and while nursing. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not ingest. Use only with adequate ventilation/personal protection. Do not breathe dust.

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. No smoking.

Advice on general occupational hygiene : Wash hands before breaks and immediately after handling the product. Wash hands before eating, drinking, or smoking. Regular cleaning of equipment, work area and clothing. Wash contaminated clothing before re-use. Remove contaminated clothing and protective equipment before entering eating areas. Avoid contact with the skin and the eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep in cool, dry place in original containers. Store away from incompatible materials (see Section 10). Store locked up. Store in a well-ventilated area away from heat and sunlight. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep tightly closed. Store in accordance with the particular national regulations.
Advice on common storage	:	Keep away from oxidizing agents, strongly acid or alkaline materials and amines.
Other data	:	Store at room temperature.

7.3. Specific end use(s)

Industrial use.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

If sub-section is empty then no values are applicable. For further information on any control parameters provided, please refer to the relevant regulation.

Components with workplace control parameters

Type Form of exposure	**Control parameters** (Expressed as)	**Update**	**Regulatory basis**

Aluminium powder (stabilised) (CAS-No. 7429-90-5)

Long-term exposure limit (8-hour TWA reference period) inhalable dust	10 mg/m3	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits
Long-term exposure limit (8-hour TWA reference period) Respirable dust	4 mg/m3	2011-12-01	UK. EH40 WEL - Workplace Exposure Limits

Derived No Effect Level (DNEL)

- **Zinc oxide**
  Type of Application (Use): Workers
  Exposure routes: Inhalation
  Health Effect: Long-term - systemic effects
  Value: 5 mg/m3

  Type of Application (Use): Workers
  Exposure routes: Inhalation
  Health Effect: Long-term - local effects
  Value: 0.5 mg/m3

  Type of Application (Use): Workers
  Exposure routes: Skin contact
  Health Effect: Long-term - systemic effects
  Value: 83 mg/kg body weight (bw) /day

  Type of Application (Use): Consumers

Exposure routes: Inhalation
Health Effect: Long-term - systemic effects
Value: 2.5 mg/m3

Type of Application (Use): Consumers
Exposure routes: Skin contact
Health Effect: Long-term - systemic effects
Value: 83 mg/kg body weight (bw) /day

Type of Application (Use): Consumers
Exposure routes: Ingestion
Health Effect: Long-term - systemic effects
Value: 0.83 mg/kg body weight (bw) /day

Predicted No Effect Concentration (PNEC)

- **Zinc oxide**
  Value: 20.6 µg/L
  Compartment: Fresh water

  Value: 6.1 µg/L
  Compartment: Marine water

  Value: 100 µg/L
  Compartment: Sewage treatment plants

  Value: 117.8 mg/kg dry weight (d.w.)
  Compartment: Fresh water sediment

  Value: 56.5 mg/kg dry weight (d.w.)
  Compartment: Marine sediment

  Value: 35.6 mg/kg dry weight (d.w.)
  Compartment: Soil

8.2. Exposure controls

Engineering measures	:	Use a local and/or general ventilation system. Local exhaust ventilation should be employed to minimize airborne contamination. Use only with adequate ventilation. Any process that has the potential to generate dust should be performed using engineering controls, such as isolation, enclosures, local exhaust ventilation, wetting with appropriate solvent, or dust collection systems, to control airborne fibers and dusts below applicable limits. Use explosion-proof electrical, ventilating and lighting equipment.
Protective measures	:	Wear suitable protective equipment.
Eye/face protection	:	Wear safety glasses with side shields. Ensure that eyewash stations and safety showers are close to the workstation location. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Equipment should conform to EN 166
Hand protection	:	Material: Chemical-resistant gloves
	:	Material: butyl-rubber

	:	Material: Nitrile rubber
	:	Protective gloves should be worn when the potential exists for prolonged or repeated skin contact.
	:	Request information on glove permeation properties from the glove supplier.
	:	Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
	:	Protective gloves complying with EN 374.
Skin and body protection	:	Wear suitable protective clothing. Wear impervious, thermal barrier/insulated clothing such as gloves, apron, boots, or whole bodysuit to prevent ANY contact with liquid or vaporizing material.
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable respiratory equipment: Respirator with a full face mask Recommended Filter type: particulate prefilter Equipment should conform to EN 14387 Equipment should conform to EN 136
Environmental exposure controls	:	Soil: The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	solid
	Form paste
Colour	grey
Odour	mild, solvent-like
Melting point/freezing point	no data available
Boiling point or initial boiling point and boiling range	no data available
Flammability	The product is not flammable.
Lower explosion limit and upper	**Lower explosion limit** / **Lower flammability limit**

explosion limit / flammability limit	> 0.7 vol% **Upper explosion limit / upper flammability limit** < 5.4 vol%
Flash point	no data available
Auto-ignition temperature	343 °C
Decomposition temperature	no data available
pH	no data available
Viscosity	**Viscosity, kinematic** no data available
Solubility(ies)	**Water solubility** no data available
Partition coefficient: n-octanol/water	no data available
Vapour pressure	no data available
Density and / or relative density	**Density** 2.1 - 2.48 g/cm3 (25 °C)
Relative vapour density	no data available
Particle characteristics	no data available

9.2. Other information

Substances and mixtures, which in contact with water, emit flammable gases	The substance or mixture does not emit flammable gases in contact with water.

SECTION 10: Stability and reactivity

10.1. Reactivity	:	Stable at normal ambient temperature and pressure.
10.2. Chemical stability	:	Stable at normal ambient temperature and pressure.
10.3. Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	:	Decomposes on heating. Avoid prolonged exposure at or above the recommended processing temperatures.
10.5. Incompatible materials	:	Strong oxidizing agents Strong acids Strong bases

reactive metals

10.6. Hazardous decomposition products : Carbon oxides
Metal oxides

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (Acute oral toxicity)
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  LD50 / Rat : > 15,900 mg/kg
  Method: OECD Test Guideline 401
  Information given is based on data obtained from similar substances.

- Zinc oxide
  LD50 / Rat : > 5,000 mg/kg
  Method: OECD Test Guideline 401

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  LD50 / Rat : > 5,000 mg/kg
  Method: OECD Test Guideline 401
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  LD50 / Rat : > 5,000 mg/kg
  Method: OECD Test Guideline 401
  Information given is based on data obtained from similar substances.

Acute toxicity (Acute dermal toxicity)
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  no data available

- Zinc oxide
  LD50 / Rat : > 2,000 mg/kg
  Method: OECD Test Guideline 402

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  LD50 / Rabbit : > 2,200 mg/kg
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  LD50 / Rat : > 2,000 mg/kg
  Method: OECD Test Guideline 402

Information given is based on data obtained from similar substances.

Acute toxicity (Acute inhalation toxicity)
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  LC50 / 4 h Rat : > 0.888 mg/l (dust/mist)
  Method: OECD Test Guideline 403
  No toxicologically significant effects were found at the highest dose tested. Information given is based on data obtained from similar substances.

- Zinc oxide
  LC50 / 4 h Rat : > 5.7 mg/l (dust/mist)
  Method: OECD Test Guideline 403

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  LC50 / 4 h Rat
  Method: OECD Test Guideline 403
  An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration. Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  no data available

Skin corrosion/irritation
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  Rabbit
  Classification: No skin irritation
  Result: Slight or no skin irritation
  Method: OECD Test Guideline 404
  Minimal effects that do not meet the threshold for classification. Information given is based on data obtained from similar substances.

- Zinc oxide
  Rabbit
  Classification: Not classified as irritant
  Result: No skin irritation
  Method: OECD Test Guideline 404

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Rabbit
  Classification: Irritating to skin.
  Result: Severe skin irritation
  Method: OECD Test Guideline 404
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−

Rabbit
Classification: No skin irritation
Result: Slight or no skin irritation
Method: OECD Test Guideline 404
Minimal effects that do not meet the threshold for classification. Information given is based on data obtained from similar substances.

Serious eye damage/eye irritation
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  Rabbit
  Classification: No eye irritation
  Result: Slight or no eye irritation
  Method: Draize Test
  Minimal effects that do not meet the threshold for classification. Information given is based on data obtained from similar substances.

- Zinc oxide
  Rabbit
  Classification: Not classified as irritant
  Result: No eye irritation
  Method: OECD Test Guideline 405
  Minimal effects that do not meet the threshold for classification.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Rabbit
  Classification: No eye irritation
  Result: Slight or no eye irritation
  Method: OECD Test Guideline 405
  Information given is based on data obtained from similar substances. Minimal effects that do not meet the threshold for classification.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Rabbit
  Classification: No eye irritation
  Result: Slight or no eye irritation
  Method: OECD Test Guideline 405
  Minimal effects that do not meet the threshold for classification. Information given is based on data obtained from similar substances.

Respiratory or skin sensitisation
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  Guinea pig
  Classification: Does not cause skin sensitization.
  Result: Does not cause skin sensitization.

Information given is based on data obtained from similar substances.

Mouse
Classification: Does not cause respiratory sensitization.
Result: Does not cause respiratory sensitization.
Information given is based on data obtained from similar substances.

- Zinc oxide
  Guinea pig Maximisation Test
  Classification: Does not cause skin sensitization.
  Result: Does not cause skin sensitization.
  Method: OECD Test Guideline 406

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Guinea pig
  Classification: Does not cause skin sensitization.
  Result: Does not cause skin sensitization.
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Guinea pig
  Classification: The product is a skin sensitiser, sub-category 1B.
  Result: Probability or evidence of low to moderate skin sensitisation rate in humans
  Method: OECD Test Guideline 406
  Information given is based on data obtained from similar substances.

Germ cell mutagenicity
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  Weight of evidence does not support classification as a germ cell mutagen. Overall weight of evidence indicates that the substance is not mutagenic. Information given is based on data obtained from similar substances.

- Zinc oxide
  Weight of evidence does not support classification as a germ cell mutagen. Overall weight of evidence indicates that the substance is not mutagenic.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Information given is based on data obtained from similar substances.

Carcinogenicity
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  No evidence of carcinogenicity in animal studies. Animal testing did not show any carcinogenic effects. Information given is based on data obtained from similar substances.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Weight of evidence does not support classification as a carcinogen Overall weight of evidence indicates that the substance is not carcinogenic. Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  no data available

Reproductive toxicity
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  Toxicity to reproduction assessment:
  No toxicity to reproduction Animal testing showed no reproductive toxicity. Information given is based on data obtained from similar substances.

  Assessment teratogenicity:
  Animal testing showed no developmental toxicity. Information given is based on data obtained from similar substances.

- Zinc oxide
  Toxicity to reproduction assessment:
  Weight of evidence does not support classification for reproductive toxicity Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity. Information given is based on data obtained from similar substances.

  Assessment teratogenicity:
  Animal testing showed no developmental toxicity.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)

  Assessment teratogenicity:
  Evidence suggests the substance is not a developmental toxin in animals. Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Toxicity to reproduction assessment:
  No toxicity to reproduction Animal testing showed no reproductive toxicity. Information given is based on data obtained from similar substances.

  Assessment teratogenicity:
  Animal testing showed no developmental toxicity. Information given is based on data obtained from similar substances.

STOT - single exposure
Not classified

Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  The substance or mixture is not classified as specific target organ toxicant, single exposure.

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

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  The substance or mixture is not classified as specific target organ toxicant, single exposure.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

  Ingestion Rat
  Exposure time: 28 d
  NOAEL: 200 mg/kg
  LOAEL: 1,000 mg/kg
  Method: OECD Test Guideline 422
  No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Information given is based on data obtained from similar substances.

  Inhalation Rat
  Exposure time: 90 d
  Method: OECD Test Guideline 413
  No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Information given is based on data obtained from similar substances.

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

  Inhalation Rat
  Exposure time: 90 d
  Method: OECD Test Guideline 413
  No toxicologically significant effects were found.

  Skin contact Rat
  Exposure time: 28 d
  Method: OECD Test Guideline 410
  No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

  Ingestion Rat
  Exposure time: 90 d
  NOAEL: > 1,000 mg/kg
  Method: OECD Test Guideline 408
  Information given is based on data obtained from similar substances., No toxicologically significant effects were found.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

  Ingestion Rat
  Exposure time: 28 d
  NOAEL: 1,000 mg/kg
  Method: OECD Test Guideline 407
  No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification.

Aspiration hazard
Not classified
Not classified due to lack of data. / Not classified due to data which are conclusive although insufficient for classification.

- Aluminium powder (stabilised)
  No aspiration toxicity classification

- Zinc oxide
  No aspiration toxicity classification

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  No aspiration toxicity classification

Human experience

No human exposure data is available.

11.2. Information on other hazards

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish

- Aluminium powder (stabilised)
  LC50 / 96 h / Salmo trutta (brown trout): > 0.08 mg/l
  Method: OECD Test Guideline 203
  No acute toxicity effects at concentrations up to the limit of aqueous solubility

- Zinc oxide
  LC50 / 96 h / Danio rerio (zebra fish): 1.55 mg/l

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  LC50 / 96 h / Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  LC50 / 96 h / Danio rerio (zebra fish): > 108.08 mg/l
  Method: OECD Test Guideline 203
  Information given is based on data obtained from similar substances.

Toxicity to aquatic plants

- Aluminium powder (stabilised)
  EC50 / 72 h / Raphidocelis subcapitata (freshwater green alga): > 0.044 mg/l
  Method: OECD Test Guideline 201
  No acute toxicity effects at concentrations up to the limit of aqueous solubility

  NOEC / 72 h / Raphidocelis subcapitata (freshwater green alga): > 0.044 mg/l
  Method: OECD Test Guideline 201
  No chronic toxicity effects were observed at concentrations up to the limit of aqueous solubility.

- Zinc oxide
  ErC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 0.136 mg/l
  Method: OECD Test Guideline 201

  NOEC / 72 h / Pseudokirchneriella subcapitata (green algae): 0.024 mg/l
  Method: OECD Test Guideline 201

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  EC50 / 72 h / Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l
  Method: OECD Test Guideline 201
  Information given is based on data obtained from similar substances.

  NOEC / 72 h / Pseudokirchneriella subcapitata (green algae): > 1,000 mg/l
  Method: OECD Test Guideline 201
  Information given is based on data obtained from similar substances.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  EC50 / 72 h / Desmodesmus subspicatus (green algae): >= 100 mg/l
  Method: OECD Test Guideline 201
  Information given is based on data obtained from similar substances.

NOEC / 72 h / Desmodesmus subspicatus (green algae): 100 mg/l
Method: OECD Test Guideline 201
Information given is based on data obtained from similar substances.

Toxicity to aquatic invertebrates

- Aluminium powder (stabilised)
  LC50 / 48 h / Daphnia magna (Water flea): > 0.135 mg/l
  Method: OECD Test Guideline 202
  No acute toxicity effects at concentrations up to the limit of aqueous solubility

- Zinc oxide
  EC50 / 48 h / Daphnia magna (Water flea): 0.481 mg/l
  Method: OECD Test Guideline 202

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  LC50 / 48 h / Daphnia magna (Water flea): > 1,000 mg/l
  Information given is based on data obtained from similar substances.

Chronic toxicity to fish

- Aluminium powder (stabilised)
  NOEC / 7 d / Pimephales promelas (fathead minnow): 56.48 mg/l
  Information given is based on data obtained from similar substances.

- Zinc oxide
  NOEC / 32 d / Danio rerio (zebra fish): > 0.54 mg/l
  Method: OECD Test Guideline 210

Chronic toxicity to aquatic Invertebrates

- Zinc oxide
  NOEC / 21 d / Daphnia magna (Water flea): 0.058 mg/l

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  NOEC / 21 d / Daphnia magna (Water flea): > 1 mg/l

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  NOEC / 21 d / Daphnia magna (Water flea): > 0.0088 mg/l
  Method: OECD Test Guideline 211
  No chronic toxicity effects were observed at concentrations up to the limit of aqueous solubility.
  Information given is based on data obtained from similar substances.

12.2. Persistence and degradability

Biodegradability

- Aluminium powder (stabilised)
  Not biodegradable
  Not applicable

- Zinc oxide

The methods for determining biodegradability are not applicable to inorganic substances.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Biodegradable
  Readily biodegradable.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Method: OECD Test Guideline 301C
  Not biodegradable
  Not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation

- Aluminium powder (stabilised)
  Bioaccumulation is unlikely.

- Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics)
  Bioaccumulation is unlikely.

- Phenol, 2,4−bis[(dodecylthio)methyl]−6−methyl−
  Method: OECD Test Guideline 305C
  Does not bioaccumulate.

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product : Dispose of in accordance with local regulations. This material and its container must be disposed of in a safe way. Dispose of contents/container to an approved waste disposal plant in accordance with local, regional and national legislations. The Waste code should be assigned in discussion between the

user, the producer and the waste disposal company.

Contaminated packaging : Since empty containers retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

ADR

14.1. UN number or ID number: 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards: Environmentally hazardous

14.6. Special precautions for user:
Tunnel restriction code: (-)

IATA_C

14.1. UN number or ID number: 3077
14.2. UN proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Zinc oxide)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards : Environmentally hazardous

14.6. Special precautions for user:
No special precautions required.

IMDG

14.1. UN number or ID number: 3077
14.2. UN proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Zinc oxide)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards : Marine pollutant

14.6. Special precautions for user:
No special precautions required.

14.7. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Listed Substance : Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics) (CAS-No.64742-48-9)
List number: : 28

Listed Substance	:	Naphtha (petroleum), hydrotreated heavy (Hydrocarbons, C11-C13, isoalkanes,<2% aromatics) (CAS-No.64742-48-9)
List number:	:	29

For information on uses please refer to Section 1.
For further information please refer to the regulation and relevant amendments.

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals

Not applicable

Major Accident Hazard Legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E1	ENVIRONMENTAL HAZARDS	Quantity:	100 t, 200 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	Quantity:	2,500 t, 25,000 t

Other regulations :

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture.

SECTION 16: Other information

Full text of H-Statements referred to under section 3.

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
CAS-No.	Chemical Abstracts Service number
CLP	Classification, Labelling and Packaging
EbC50	Concentration at which 50% reduction of biomass is observed
EC50	Median effective concentration
EN	European Norm
EPA	Environmental Protection Agency
ErC50	Concentration at which a 50% inhibition of growth rate is observed
EyC50	Concentration at which 50 % inhibition of yield is observed
IATA_C	International Air Transport Association (Cargo)
IBC	International Bulk Chemical Code
ICAO	International Civil Aviation Organization
ISO	International Standard Organization
IMDG	International Maritime Dangerous Goods
LC50	Median Lethal Concentration
LD50	Median Lethal Dose
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest observed effect level
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No observed adverse effect level
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
OECD	Organisation for Economic Co-operation and Development
OPPTS	Office of Prevention, Pesticides and Toxic Substances
PBT	Persistent, Bioaccumulative and Toxic
STEL	Short term exposure limit
TWA	Time Weighted Average (TWA):
vPvB	very Persistent and very Bioaccumulative

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No. 1272/2008

Classification according to Regulation (EU) 1272/2008 (CLP)	Classification procedure:
Aquatic Chronic 2, H411	Calculation method

Sources of key data used to compile the Safety Data Sheet

Key literature references and sources for data may include: regulations, databases, literature, own research, practical experience.
The health and environmental classification of the mixture is derived using the calculation methods and the classifications of the relevant ingredients unless product level data has been provided in Section 11 or 12, indicating that the classification for those end points were derived on the basis of test data or bridging principles.

Note: The classification of substances listed in Annex VI to the CLP regulation are derived from assessment of the best knowledge and information available at the time of its publication or subsequent amendments.The information on components provided in sections 11 and 12 of this safety data sheet may in some cases not align with a legally binding classification on the basis of technical progress and availability of new information.

Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.