Safety Data Sheet

According to Regulation (EC) No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and (EC) No. 1907/2006 (REACH)

Initial preparation date: 05.01.2018

Revision date: 09.09.2020

Truflex/Pang Butyl Liner Sealer

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

1.1 Product identifier

Product Name: Truflex/Pang Butyl Liner Sealer
Product code: BLRSF/PT, BLRSF/QT, BLRSF/5GAL, BLRSF/55GAL
Additional information: Rev 7

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

Relevant identified uses: Liner sealer
Uses advised against: Not determined or not applicable.
Reasons why uses advised against: Not determined or not applicable.

1.3 Details of the manufacturer/supplier of the safety data sheet

Manufacturer:	**Supplier:**
North America	**European Union**
Tech International	Tech International Europe
200 East Coshocton Street	Koeybleuken 16
Johnstown, OH 43031	2300 Turnhout, Belgium
1-740-967-9015	00 32 1442 3103
www.tech-international.com	techeurope@trc4r.com

1.4 Emergency telephone number:

European Union
CHEMTREC
Brussels +(32) - 28083237

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) No. 1272/2008 (CLP):

Flammable liquids, category 2
Skin irritation, category 2
Specific target organ toxicity - single exposure, category 3, central nervous system
Chronic aquatic hazard, category 2

Hazard-determining components of labeling:

Zinc oxide
Di(benzothiazol-2-yl) disulphide
Thiram (ISO); tetramethylthiuram disulphide
Heptane
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

2.2 Label elements

Hazard pictograms:

Signal word: Danger

Hazard statements:

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
EUH208 Contains Di(benzothiazol-2-yl) disulphide and Thiram (ISO); tetramethylthiuram disulphide. May produce an allergic reaction.

Precautionary statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P264 Wash skin thoroughly after handling.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P370+P378 In case of fire: Use agents recommended in Section 5 to extinguish.
P321 Specific treatment (see supplemental first aid instructions on this label).
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P363 Wash contaminated clothing before reuse
P332+P313 If skin irritation occurs: Get medical advice/attention
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor/physician if you feel unwell.
P391 Collect spillage
P405 Store locked up.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information:

EUH208 Contains Di(benzothiazol-2-yl) disulphide and Thiram (ISO); tetramethylthiuram disulphide. May produce an allergic reaction.

2.3 Other hazards: None known

SECTION 3: Composition/information on ingredients

3.1 Substance: Not applicable.

3.2 Mixture:

Identification	Name	Classification according to Regulation (EC) No. 1272/2008 (CLP)	Weight %
CAS number: 64742-49-0 EC number: 265-151-9 REACH number: 01-2119475515-33-0015	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Stot SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411 Skin Irrit. 2 ; H315 Flam. Liq. 2; H225	60-90
CAS number: 1333-86-4 EC number: 215-609-9	Bounded Carbon Black	Not classified	<15

CAS number: 142-82-5 EC number: 205-563-8	Heptane	Asp. Tox. 1; H304 Skin Irrit. 2 ; H315 Stot SE 3; H336 Flam. Liq. 2; H225 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	<10
CAS number: 64742-54-7 EC number: 265-157-1	Distillates (petroleum), hydrotreated heavy paraffinic	Not classified	<5
CAS number: 57-11-4 EC number: 200-313-4	Stearic acid	Not classified	<5
CAS number: 1309-48-4 EC number: 215-171-9	Magnesium oxide	Not classified	<5
CAS number: 9002-88-4	Polyethylene	Not classified	<5
CAS number: 1314-13-2 EC number: 215-222-5 REACH: 01-2119463881-32-0039	Zinc oxide	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	<5
CAS number: 120-78-5 EC number: 204-424-9	Di(benzothiazol-2-yl) disulphide	Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	<1
CAS number: 8042-47-5 EC number: 232-455-8	White Mineral Oil	Not classified	<1
CAS number: 137-26-8 EC number: 205-286-2	Thiram (ISO); tetramethylthiuram disulphide	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Sens. 1; H317 Skin Irrit. 2 ; H315 Eye Irrit. 2; H319 Stot RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	<1
CAS number: 119-47-1 EC number: 204-327-1	2,2'-Methylenebis(4-methyl-6- tertiarybutyl phenol)	Repr. 2; H361 Aquatic Chronic 4; H413	<1

Additional information:

Carbon black is classified as a carcinogen only in its respirable form. Since the carbon black in this product is not respirable, the product itself is not classified as a carcinogen in the form presented.

According to Note L of the European Directive 67/548/CEE, the "solvent neutral oil" substance should not be classified as "carcinogenic" ingredients, because it has been shown that the substances contain less than 3%

DMSO extract as measured by IP 346.

Full Text of H and EUH statements: See section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance

Following inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention

Following skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention

Take off all contaminated clothing

Gently blot or brush away excess product

Wash with plenty of lukewarm, gently flowing water

Get medical advice if skin irritation occurs or you feel unwell

Following eye contact:

Rinse eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention

Following ingestion:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention

4.2 Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Inhalation may have adverse effects on the central nervous system. Symptoms may include drowsiness, dizziness, headache, nausea and lowering of consciousness. Acute overexposure via inhalation may result in respiratory distress, confusion and unconsciousness

Skin contact may result in redness, pain, burning and inflammation

Product is highly flammable. Exposure to sources of ignition may cause physical injury

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

4.3 Indication of any immediate medical attention and special treatment needed

Specific treatment:

Overexposure via inhalation requires urgent medical treatment.

Skin/eye burns require immediate treatment.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

Use Water (fog only), dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

5.2 Special hazards arising from the substance or mixture:

Highly flammable liquid. Will be easily ignitable by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation.

5.3 Advice for firefighters

Personal protection equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

Special precautions:

Evacuate non-essential personnel. Ventilate closed spaces before entering. Consider initial evacuation for 300 meters in all directions. If tank/rail car is involved in the fire, ISOLATE for 800 meters in all directions. Fight fire from a maximum distance. Move containers from fire area if you can do it without risk. Use water spray/fog for cooling fire exposed containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Stand by, at a safe distance, with extinguisher ready for possible re-ignition. A vapor-suppressing foam may be used to reduce vapors. Avoid unnecessary run-off of extinguishing media which may cause pollution. Do not handle damaged containers unless specialized to do so.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. All equipment used when handling the product must be grounded. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist. vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

6.2 Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

6.4 Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment. Take action to prevent static discharges. Handle containers with caution. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

7.2 Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

7.3 Specific end use(s):

Refer to Section 1 (Recommended Use).

SECTION 8: Exposure controls/personal protection



8.1 Control parameters

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Hungary	White Mineral Oil	8042-47-5	Ceiling Limit (MK Value): 5 mg/m³ [Oil smog (mineral oil)]
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Ceiling Limit (MK Value): 5 mg/m³ (Oil smog, mineral oil)
	Heptane	142-82-5	8-hour TWA (ÁK Value): 2000 mg/m³
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Other inert dusts, total (inhalable))
	Heptane	142-82-5	60-minute STEL (CK value): 8000 mg/m³
	Polyethylene	9002-88-4	8-hour TWA: 6 mg/m³ (Other inert dusts, respirable)
	Magnesium oxide	1309-48-4	8-hour TWA (ÁK Value): 6 mg/m³ (respirable, as Mg)
	Magnesium oxide	1309-48-4	60-minute STEL (CK Value): 24 mg/m³ (respirable, as Mg)
	Magnesium oxide	1309-48-4	8-hour TWA (ÁK Value): 10 mg/m³ (total, inhalable)
	Zinc oxide	1314-13-2	8-hour TWA (ÁK Value): 5 mg/m³ (Respirable)
	Magnesium oxide	1309-48-4	8-hour TWA (ÁK Value): 6 mg/m³ (respirable)
	Zinc oxide	1314-13-2	60-minute STEL (CK Value): 20 mg/m³ (Respirable)
Poland	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	STEL: 1500 mg/m³
	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	TWA: 500 mg/m³
	White Mineral Oil	8042-47-5	8-hour TWA (NDS): 5 mg/m³ (Highly refined mineral oils with the exception of cutting fluids, Inhalable fraction)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA (NDS): 5 mg/m³ (Highly refined mineral oils with the exception of cutting fluids, inhalable fraction)
	Bounded Carbon Black	1333-86-4	Dz.U.Poz. 817/2014, Annex 1: TWA (NDS) 4.0 mg/m³ (8 hr)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA (NDS): 0.5 mg/m³
	Heptane	142-82-5	8-hour TWA (NDS): 1200 mg/m³
	Heptane	142-82-5	15-minute STEL (NDSCh): 2000 mg/m³
	Zinc oxide	1314-13-2	8-hour TWA (NDS): 5 mg/m³ (Inhalable fraction, as Zn)
	Zinc oxide	1314-13-2	15-minute STEL (NDSCh): 10 mg/m³ (Inhalable fraction, as Zn)
	Magnesium oxide	1309-48-4	8-hour TWA (NDS): 10 mg/m³ (inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Other nontoxic industrial dusts, including those containing less than 2% free (crystalline) silica, inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 6 mg/m³ (Dusts of apatites and phosphate rocks containing less than 2% free crystalline silica, inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Dusts of apatites and phosphate rocks containing less than 2% free crystalline silica, respirable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 4 mg/m³ (Dusts of apatites and phosphate rocks containing more than 2% free crystalline silica, inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 1 mg/m³ (Dusts of apatites and phosphate rocks containing more than 2% free crystalline silica, respirable fraction)
Lithuania	Stearic acid	57-11-4	8-hour TWA: 5 mg/m³
	White Mineral Oil	8042-47-5	8-hour TWA: 1 mg/m³ (Oil mist, including smoke)
	White Mineral Oil	8042-47-5	15-minute STEL: 3 mg/m³ (Oil mist, including smoke)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA: 1 mg/m³ (Oil mist, including smoke)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL: 3 mg/m³ (Oil mist, including smoke)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 1 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	15-minute STEL: 2 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
	Heptane	142-82-5	15-minute STEL: 3128 mg/m³ (750 ppm)
	Magnesium oxide	1309-48-4	8-hour TWA: 4 mg/m³
	Magnesium oxide	1309-48-4	8-hour TWA: 10 mg/m³ (inhalable fraction)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³ (respirable fraction)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³
	Magnesium oxide	1309-48-4	8-hour TWA: 1 mg/m³ (textile dust)
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (dust, inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 5 mg/m³ (Dust: respirable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 1 mg/m³ (Dust - textile)
	Polyethylene	9002-88-4	8-hour TWA: 5 mg/m³ (Dusts and mists of organic origin, inhalable fraction)
Bulgaria	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	TWA: 5.0 mg/m³ (Oil - Mineral, petroleum)
	Polyethylene	9002-88-4	TWA: 10 mg/m³ (Dust)
	Polyethylene	9002-88-4	TWA: 5.0 mg/m³ (Mixed dusts, containing less than 2% free crystalline silicon dioxide, inhalable fraction)
	Polyethylene	9002-88-4	TWA: 3.5 mg/m³ (Mixed dusts, containing less than 2% free crystalline silicon dioxide, respirable fraction)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	TWA: 4.0 mg/m³
	Polyethylene	9002-88-4	TWA: 10 mg/m³ (Insoluble dusts, containing less than 2% free crystalline silicon dioxide (not containing fibrous particles), not listed elsewhere, inhalable fraction)
	Polyethylene	9002-88-4	TWA: 4 mg/m³ (Insoluble dusts, containing less than 2% free crystalline silicon dioxide (not containing fibrous particles), not listed elsewhere, respirable fraction)
	Polyethylene	9002-88-4	TWA: 5 mg/m³ (Refinery and smelter coke powder, inhalable fraction)
	White Mineral Oil	8042-47-5	TWA: 5.0 mg/m³ (petroleum)
	Magnesium oxide	1309-48-4	TWA: 10.0 mg/m³
	Heptane	142-82-5	TWA: 1600 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Zinc oxide	1314-13-2	15-minute STEL: 10.0 mg/m³
Belgium	Stearic acid	57-11-4	8-hour TWA: 10 mg/m³ (as stearates)
	Bounded Carbon Black	1333-86-4	Exposure Limit Value: TWA 3.5 mg/m³ (8 hr)
	White Mineral Oil	8042-47-5	8-hour TWA: 5 mg/m³ [Mineral oils (mist)]
	White Mineral Oil	8042-47-5	15-minute STEL: 10 mg/m³ [Mineral oils (mist)]
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-Hour TWA: 5 mg/m³ (Mineral oils, mist)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL: 10 mg/m³ (Mineral oils, mist)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 0.005 ppm (0.05 mg/m³)
	Heptane	142-82-5	8-hour TWA: 400 ppm (1664 mg/m³)
	Heptane	142-82-5	15-minute STEL: 500 ppm (2085 mg/m³)
	Magnesium oxide	1309-48-4	8-hour TWA: 10 mg/m³ (fumes)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³ (Fumes)
	Zinc oxide	1314-13-2	15-minute STEL: 10 mg/m³ (Fumes)
	Zinc oxide	1314-13-2	8-hour TWA: 10 mg/m³ (Dusts)
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Particles not otherwise classified. Inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 3 mg/m³ (Particles not otherwise classified. Respirable fraction)
Ireland	Stearic acid	57-11-4	8-hour TWA: 10 mg/m³ (as stearates, except lead stearate)
	Bounded Carbon Black	1333-86-4	2016 Code of Practice for Chemical Agents Regulations 2001: TWA 3.0 mg/m³ (8 hr) OEL
	White Mineral Oil	8042-47-5	8-hour OEL (TWA): 5 mg/m³ (Mineral oil, pure, highly and severely refined; Inhalable fraction)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour OEL (TWA) is: 5 mg/m³ (Mineral oil, pure, highly and severely refined; Inhalable fraction)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour OEL (TWA): 0.05 mg/m³
	Heptane	142-82-5	8-hour OEL (TWA): 500 ppm (2085 mg/m³)
	Magnesium oxide	1309-48-4	8-hour OEL (TWA): 4 mg/m³ (respirable dust)
	Magnesium oxide	1309-48-4	8-hour OEL (TWA): 5 mg/m³ (fume)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Magnesium oxide	1309-48-4	15-minute OEL (STEL): 10 mg/m³ (fume)
	Magnesium oxide	1309-48-4	8-hour OEL (TWA): 10 mg/m³ (total inhalable dust)
	Polyethylene	9002-88-4	8-hour (OEL) TWA: 10 mg/m³ (Dust: non-specific, total inhalable)
	Polyethylene	9002-88-4	8-hour (OEL) TWA: 4 mg/m³ (Dust: non-specific, respirable)
Czech Republic	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	The ceiling limit (NPK-P): 10 mg/m³ (Mineral oils, aerosol)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA: 5 mg/m³ (Mineral oils, aerosol)
	Bounded Carbon Black	1333-86-4	Government Decree 361/2007 Sb.: TWA 2.0 mg/m³ (8 hr)
	Polyethylene	9002-88-4	8-hour TWA: 5.0 mg/m³
	White Mineral Oil	8042-47-5	8-hour TWA: 5 mg/m³ (aerosol)
	Heptane	142-82-5	8-hour TWA: 1000 mg/m³
	Heptane	142-82-5	Ceiling limit (NPK-P): 2000 mg/m³
	White Mineral Oil	8042-47-5	Ceiling limit (NPK-P): 10 mg/m³ (aerosol)
	Zinc oxide	1314-13-2	8-hour TWA: 2 mg/m³ (as Zn)
	Zinc oxide	1314-13-2	Ceiling limit (NPK-P): 5 mg/m³ (Fumes)
Italy	Stearic acid	57-11-4	8-hour TWA: 3 mg/m³ [Stearates (except stearates of toxic metals), Respirable fraction]
	Stearic acid	57-11-4	8-hour TWA: 10 mg/m³ [Stearates (except stearates of toxic metals), Inhalable fraction]
	Bounded Carbon Black	1333-86-4	Legislative Decree n.81: TWA 3.0 mg/m³ (8 hr)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA: 5 mg/m³ (Mineral oil, excluding metal working fluids, pure, highly and severely refined; Inhalable fraction)
	White Mineral Oil	8042-47-5	8-hour TWA: 5 mg/m³ (Mineral oil, excluding metal working fluids, pure, highly and severely refined; Inhalable fraction)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 0.05 mg/m³
	Heptane	142-82-5	8-hour TWA: 500 ppm (2085 mg/m³)
	Magnesium oxide	1309-48-4	8-hour TWA: 10 mg/m³ (inhalable fraction)
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles)
	Zinc oxide	1314-13-2	8-hour TWA: 2 mg/m³ (Respirable fraction)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Polyethylene	9002-88-4	8-hour TWA: 3 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, respirable particles)
	Zinc oxide	1314-13-2	15-minute STEL: 10 mg/m³ (Respirable fraction)
Romania	White Mineral Oil	8042-47-5	8-hour TWA: 5 mg/m³ (Mineral oils)
	White Mineral Oil	8042-47-5	15-minute STEL: 10 mg/m³ (Mineral oils)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-Hour TWA: 5 mg/m³ (Mineral oils)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL: 10 mg/m³ (Mineral oils)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 2 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	15-minute STEL: 5 mg/m³
	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³ (fumes)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³ (Fumes)
	Zinc oxide	1314-13-2	15-minute STEL: 10 mg/m³ (Fumes)
	Magnesium oxide	1309-48-4	15-minute STEL: 15 mg/m³ (fumes)
Portugal	Stearic acid	57-11-4	8-hour Exposure Limit: 10 mg/m³ (as stearates)
	Bounded Carbon Black	1333-86-4	VLE: 3.5 mg/m³ (8 hr)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour exposure limit: 5 mg/m³
	White Mineral Oil	8042-47-5	NP 1796-2007 8-hour exposure limit: 5 mg/m³
	White Mineral Oil	8042-47-5	NP 1796-2007 Short-term exposure limit: 10 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Short-term exposure limit: 10 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour exposure limit: 1 mg/m³
	Heptane	142-82-5	Decree-Law No. 24/2012 8-hour TWA: 500 ppm (2085 mg/m³)
	Heptane	142-82-5	NP 1796-2007 8-hour exposure limit: 400 ppm
	Magnesium oxide	1309-48-4	8-hour exposure limit: 10 mg/m³
	Heptane	142-82-5	NP 1796-2007 Short-term exposure limit: 500 ppm
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles)
	Zinc oxide	1314-13-2	8-hour exposure limit: 2 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Polyethylene	9002-88-4	8-hour TWA: 3 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, respirable particles)
	Zinc oxide	1314-13-2	Short-term exposure limit: 10 mg/m³
Croatia	Bounded Carbon Black	1333-86-4	Dangerous Substances Exposure Limit Values in the Workplace: 3.5 mg/m³ (8hr); 7.0 mg/m³ (15 min)
	Magnesium oxide	1309-48-4	Maximum (8 hr) allowable concentration: 10 mg/m³ (total dust)
	Magnesium oxide	1309-48-4	Maximum (8 hr) allowable concentration: 4 mg/m³ (respirable dust)
	Heptane	142-82-5	Maximum (8 hr) allowable concentration: 500 ppm (2085 mg/m³)
	Zinc oxide	1314-13-2	Maximum (8 hr) allowable concentration: 5 mg/m³
	Zinc oxide	1314-13-2	Short-term (15 min) allowable concentration: 10 mg/m³
Spain	Stearic acid	57-11-4	8-hour daily exposure limit (VLA_ED): 10 mg/m³ [Stearates (except stearates of toxic metals)]
	Bounded Carbon Black	1333-86-4	VLA: VLA_ED 3.5 mg/m³ (8 hr)
	White Mineral Oil	8042-47-5	8-hour daily exposure limit (VLA_ED): 5 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour daily exposure limit (VLA_ED): 5 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL (VLA-EC): 10 mg/m³
	White Mineral Oil	8042-47-5	15-minute STEL (VLA-EC): 10 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour daily exposure limit (VLA_ED): 1 mg/m³
	Magnesium oxide	1309-48-4	8-hour daily exposure limit (VLA_ED): 10 mg/m³
	Heptane	142-82-5	8-hour daily exposure limit (VLA-ED): 500 ppm (2085 mg/m³)
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles)
	Zinc oxide	1314-13-2	8-hour daily exposure limit (VLA_ED): 2 mg/m³
	Polyethylene	9002-88-4	8-hour TWA: 3 mg/m³ (Particles (insoluble or poorly soluble) not otherwise specified, respirable particles)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Zinc oxide	1314-13-2	15-minute STEL (VLA-EC): 10 mg/m³
Estonia	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 1 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	STEL: 2 mg/m³
	Polyethylene	9002-88-4	8-hour TWA: 10 mg/m³ (Total Dust)
	Polyethylene	9002-88-4	8-hour TWA: 3 mg/m³ (Dust - plastic)
	Polyethylene	9002-88-4	8- hour TWA: 5 mg/m³ (Dust - fine dust)
	Magnesium oxide	1309-48-4	8-hour TWA: 10 mg/m³ (total dust)
	Polyethylene	9002-88-4	8-hour TWA: 1 mg/m³ (Dust - textile)
	Heptane	142-82-5	8-hour TWA: 500 ppm (2085 mg/m³)
	Polyethylene	9002-88-4	8-hour TWA: 5 mg/m³ (Total dust - Organic)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³ (fine dust)
	Magnesium oxide	1309-48-4	8-hour TWA: 3 mg/m³ (plastic)
	Magnesium oxide	1309-48-4	8-hour TWA: 1 mg/m³ (textile)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³ (organic dust, total dust)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³
Cyprus	Bounded Carbon Black	1333-86-4	Control of factory atmosphere and dangerous substances in factories regulation: TWA 3.5 mg/m³ (8 hr)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³
	Magnesium oxide	1309-48-4	Ceiling limit (NPK-P): 10 mg/m³
	Zinc oxide	1314-13-2	8-hour TWA: 5.0 mg/m³ (Fumes)
Sweden	Stearic acid	57-11-4	Level Limit Value (NGV): 5 mg/m³ (as stearates, total dust)
	White Mineral Oil	8042-47-5	Level Limit Value (NGV): 1 mg/m³ (Oil mist including oil fume)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Level Limit Value (NGV): 1 mg/m³ (Oil mist including oil fume)
	White Mineral Oil	8042-47-5	Short Term Limit (KTV): 3 mg/m³ (Oil mist including oil fume)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Short Term Limit (KTV): 3 mg/m³ (Oil mist including oil fume)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	Level Limit Value (NGV): 1 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	Short Term Limit (KTV): 2 mg/m³
	Magnesium oxide	1309-48-4	Level Limit Value (NGV): 10 mg/m³ (inhalable dust)
	Heptane	142-82-5	Level Limit Value (NGV): 200 ppm (800 mg/m³)
	Magnesium oxide	1309-48-4	Level Limit Value (NGV): 5 mg/m³ (respirable dust)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Heptane	142-82-5	Short Term Limit (KTV): 300 ppm (1200 mg/m³)
	Polyethylene	9002-88-4	Level limit value (NGV): 10 mg/m³ (dust, inorganic, inhalable dust)
	Zinc oxide	1314-13-2	Level Limit Value (NGV): 5 mg/m³ (Total dust)
	Polyethylene	9002-88-4	Level limit value (NGV): 10 mg/m³ (dust, inorganic, respirable dust)
	Heptane	142-82-5	Short Term Limit (KTV): 300 ppm (1200 mg/m³) - Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1)
	Heptane	142-82-5	Level Limit Value (NGV): 200 ppm (800 mg/m³) - Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2018:1)
Slovakia	White Mineral Oil	8042-47-5	8-hour TWA (NPEL): 5 ppm (1 mg/m³) [Liquid mineral oil mist, fumes]
	White Mineral Oil	8042-47-5	15-minute STEL (NPEL): 15 ppm (3 mg/m³) [Liquid mineral oil mist, fumes]
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA (NPEL): 5 ppm (Liquid mineral oil mist, fumes)
	Bounded Carbon Black	1333-86-4	Regulation No. 355.2006 concerning protection of workers exposed to chemical agents, Annex 1: TWA (NPEL) 2.0 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA (NPEL): 1 mg/m³ (Liquid mineral oil mist, fumes)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL (NPEL): 15 ppm (Liquid mineral oil mist, fumes)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA (NPEL): 1.0 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	15-minute STEL (NPEL): 3 mg/m³ (Liquid mineral oil mist, fumes)
	Heptane	142-82-5	8-hour TWA (NPEL): 500 ppm (2085 mg/m³)
	Zinc oxide	1314-13-2	8-hour TWA (NPEL): 1 mg/m³ [Fumes (Respirable fraction)]
	Magnesium oxide	1309-48-4	8-hour TWA (NPEL): 4 mg/m³ (respirable fraction)
	Magnesium oxide	1309-48-4	8-hour TWA (NPEL): 10 mg/m³ (inhalable fraction)
	Zinc oxide	1314-13-2	15-minute STEL (NPEL): 1 mg/m³ [Fumes (Respirable fraction)]
	Zinc oxide	1314-13-2	8-hour TWA (NPEL): 0.1 mg/m³ [Zinc and its inorganic compounds (Respirable fraction)]

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Zinc oxide	1314-13-2	8-hour TWA (NPEL): 2 mg/m³ [Zinc and its inorganic compounds (Inhalable fraction)]
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Other siliceous materials (except asbestos), respirable fraction, Fr ≤ 5%)
	Polyethylene	9002-88-4	8-hour TWA (NPEL): 2 mg/m³ (Other siliceous materials (except asbestos), respirable fraction, Fr > 5%)
	Polyethylene	9002-88-4	8-hour TWA (NPEL): 10 mg/m³ (Other siliceous materials (except asbestos), total concentration)
Denmark	Bounded Carbon Black	1333-86-4	Exposure Limits for Substances & Materials: TWA 3.5 mg/m³
	White Mineral Oil	8042-47-5	TWA: 1 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	TWA: 1 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	TWA: 1 mg/m³
	Heptane	142-82-5	TWA: 200 ppm (820 mg/m³)
	Magnesium oxide	1309-48-4	TWA: 6 mg/m³
	Zinc oxide	1314-13-2	TWA: 4 mg/m³
European Union	White Mineral Oil	8042-47-5	SCOEL 8-hour TWA: 5 mg/m³ (severely refined mineral oils, inhalable)
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-Hour TWA: 5 mg/m³ (Severely Refined Mineral Oils, inhalable)
	Heptane	142-82-5	IOEL threshold limit: 2085 mg/m³ (500 ppm)
	Heptane	142-82-5	SCOEL 8-hour TWA: 500 ppm (2085 mg/m³)
Finland	Bounded Carbon Black	1333-86-4	Workplace Exposure Limits: 3.5 mg/m³ (8 hr); 7.0 mg/m³ (15 min)
	White Mineral Oil	8042-47-5	8-hour limit: 5 mg/m³
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour limit: 5 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour limit: 1 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	15-minute limit: 2 mg/m³
	Heptane	142-82-5	8-hour limit: 300 ppm (1200 mg/m³)
	Heptane	142-82-5	15-minute limit: 500 ppm (2100 mg/m³)
	Magnesium oxide	1309-48-4	8-hour limit: 10 mg/m³
	Zinc oxide	1314-13-2	8-hour limit: 2 mg/m³
	Zinc oxide	1314-13-2	15-minute limit: 10 mg/m³
France	Bounded Carbon Black	1333-86-4	Threshold Limit Values (VLEP): Time weighted average (VME) 3.5 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	Time weighted average (VME): 5 mg/m³
	Heptane	142-82-5	Time weighted average (VME): 400 ppm (1668 mg/m³)
	Magnesium oxide	1309-48-4	Time weighted average (VME): 10 mg/m³ (fumes)
	Heptane	142-82-5	Short term exposure limit: 500 ppm (2085 mg/m³)
	Polyethylene	9002-88-4	Time weighted average: 10 mg/m³ (Inhalable fraction)
	Zinc oxide	1314-13-2	Time weighted average (VME): 5 mg/m³ (Fumes)
	Polyethylene	9002-88-4	Time weighted average: 5 mg/m³ (Respirable fraction)
	Zinc oxide	1314-13-2	Time weighted average (VME): 10 mg/m³ (Dusts)
Slovenia	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 5 mg/m³ (inhalable fraction)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	STEL: 20 mg/m³ (inhalable fraction)
	Heptane	142-82-5	8-hour TWA: 2085 mg/m³ (500 ppm)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³ [Fumes (Respirable fraction)]
	Zinc oxide	1314-13-2	STEL: 20 mg/m³ [Fumes (Respirable fraction)]
Latvia	Heptane	142-82-5	8-hour TWA: 350 mg/m³ (85 ppm)
	Polyethylene	9002-88-4	8-hour TWA: 5 mg/m³ (Polymer dust)
	Heptane	142-82-5	15-minute STEL: 2085 mg/m³ (500 ppm)
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Silicates and alumosilicates: abrasive dusts)
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Silicates and alumosilicates: bauxite ore)
	Polyethylene	9002-88-4	8-hour TWA: 4 mg/m³ (Silicates and alumosilicates: mica, phlogopite, muscovite, talc, talc-like dust)
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Silicates and alumosilicates: synthetic mineralfiber with silicates and aluminosilicates of glasslike structure (fiberglass, glass-wool, cinder, and silicate cotton, etc.))
	Polyethylene	9002-88-4	8-hour TWA: 6 mg/m³ (Silicates and alumosilicates: cement, apatite, clay)
	Zinc oxide	1314-13-2	8-hour TWA: 0.5 mg/m³

Country (Legal Basis)	Substance	Identifier	Permissible concentration
	Polyethylene	9002-88-4	8-hour TWA: 4 mg/m³ (Silicates and alumosilicates: volcanic origin glasslike silicates (tuff, pumice, perlite))
	Polyethylene	9002-88-4	8-hour TWA: 2 mg/m³ (Silicates and alumosilicates: zeolites (natural and synthetic))
Greece	Bounded Carbon Black	1333-86-4	Decree 307/1986: TWA 3.5mg/m³ (8 hr); STEL 7.0 mg/m³ (15 min)
	White Mineral Oil	8042-47-5	8-hour TWA: 5 mg/m³ [Paraffin oil (Mist)]
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-hour TWA: 5 mg/m³ (Paraffin oil, mist)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	8-hour TWA: 5 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	15-minute STEL: 10 mg/m³
	Magnesium oxide	1309-48-4	8-hour TWA: 10 mg/m³ (inhalable)
	Heptane	142-82-5	8-hour TWA:: 500 ppm (2000 mg/m³)
	Magnesium oxide	1309-48-4	8-hour TWA: 5 mg/m³ (respirable)
	Heptane	142-82-5	15-minute STEL: 500 ppm (2000 mg/m³)
	Zinc oxide	1314-13-2	8-hour TWA: 5 mg/m³ (Fumes)
	Zinc oxide	1314-13-2	15-minute STEL: 10 mg/m³ (Fumes)
Austria	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	TWA: 5 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	STEL: 25 mg/m³
	Heptane	142-82-5	TWA: 2000 mg/m³ (500 ppm)
	Heptane	142-82-5	STEL: 8000 mg/m³ (2000 ppm)
Germany	White Mineral Oil	8042-47-5	AGW limit value: 5 mg/m³
	White Mineral Oil	8042-47-5	AGW Short term (15 min) exposure limit: 20 mg/m³
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	AGW limit value: 1 mg/m³ (inhalable fraction)
	Thiram (ISO); tetramethylthiuram disulphide	137-26-8	AGW Short term (15 min) exposure limit: 2 mg/m³ (inhalable fraction)
	Heptane	142-82-5	AGW limit value: 500 ppm (2100 mg/m³)
	Magnesium oxide	1309-48-4	AGW Limit value: 1.25 mg/m³ (respirable fraction)
	Magnesium oxide	1309-48-4	AGW limit value: 10 mg/m³ (inhalable fraction)
	Heptane	142-82-5	AGW Short term (15 min) exposure limit: 500 ppm (2100 mg/m³)
	Polyethylene	9002-88-4	8-hour TWA: 4 mg/m³ (General threshold limit value. Inhalable fraction)

Country (Legal Basis)	Substance	Identifier	Permissible concentration
Malta	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)
United Kingdom	Bounded Carbon Black	1333-86-4	WEL: TWA 3.5 mg/m³; STEL 7.0 mg/m³
	Magnesium oxide	1309-48-4	TWA: 10 mg/m³ as Mg (inhalable dust)
	Magnesium oxide	1309-48-4	TWA: 4 mg/m³ as Mg (fume and respirable dust)
	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)
	Polyethylene	9002-88-4	TWA: 4 mg/m³ (Dust: respirable dust)
	Polyethylene	9002-88-4	TWA: 10 mg/m³ (Dust: inhalable dust)
Netherlands	White Mineral Oil	8042-47-5	Binding 8-hour TWA: 5 mg/m³ [Oil mist (Mineral oil)]
	Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	8-Hour TWA: 5 mg/m³ (Mineral oils, mist)
	Heptane	142-82-5	Binding 8-hour TWA: 1200 mg/m³
	Heptane	142-82-5	Binding STEL (15 min): 1600 mg/m³
Luxembourg	Heptane	142-82-5	TWA: 500 ppm (2085 mg/m³)

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Derived No Effect Level (DNEL):

Not determined or not applicable.

Predicted No Effect Concentration (PNEC):

Not determined or not applicable.

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls
Biological monitoring may also be appropriate for some substances

8.2 Exposure controls

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Use explosion-proof ventilation equipment.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Wear appropriate clothing to prevent any possibility of skin contact.

For continuous contact we recommend nitrile gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified.

Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Always seek advice from glove suppliers.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Use a European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Comply with the European Standard EN149.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

Environmental exposure controls:

Select controls based on a risk assessment of local conditions.

See section 6 for information on accidental release measures.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Black viscous liquid
Odor	Strong solvent
Odor threshold	Not determined or not available.
pH	Not determined or not available.
Melting point/freezing point	Not determined or not available.
Initial boiling point/range	190°F (88°C)
Flash point (closed cup)	15°F (-9°C)
Evaporation rate	> 1 (n-BuAC = 1)
Flammability (solid, gas)	Flammable
Upper flammability/explosive limit	6.7% (V)
Lower flammability/explosive limit	1.2% (V)
Vapor pressure	119 mmHg at 20°C (68°F)
Vapor density	Not determined or not available.
Density	Not determined or not available.
Relative density	0.77 g/cm³ (6.59 lbs./gal) at 20°C
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not determined or not available.
Auto/Self-ignition temperature	Not determined or not available.
Decomposition temperature	Not determined or not available.
Dynamic viscosity	Not determined or not available.
Kinematic viscosity	7000 cps
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

9.2 Other information

VOC	567 g/L

SECTION 10: Stability and reactivity

10.1 Reactivity:

Does not react under normal conditions of use and storage.

10.2 Chemical stability:

Stable under normal conditions of use and storage.

10.3 Possibility of hazardous reactions:

None under normal conditions of use and storage.

10.4 Conditions to avoid:

Prevent exposure to heat, sparks, flame and other sources of ignition.

10.5 Incompatible materials:

None known.

10.6 Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Product data: No data available.

Substance data:

Name	Route	Result
Thiram (ISO); tetramethylthiuram disulphide	oral	LD50 - Bird (Wild) - 300 mg/kg
	inhalation	LC50 - Rat - 3.464 mg/L air (analytical) - 4 h
Heptane	inhalation	LC50 Rat: > 29.29 mg/L (4 hr)
	oral	LD50 Rat: > 5000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	oral	LD50 Rat: > 5000 mg/kg
	dermal	LD50 Rabbit: > 2000 mg/kg
	inhalation	LC50 Rat: > 4.42 mg/L (4 hr, vapor)

Skin corrosion/irritation

Assessment:

Causes skin irritation

Product data:

No data available.

Substance data:

Name	Result
Heptane	Causes skin irritation.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Causes skin irritation.

Serious eye damage/irritation

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

Product data:

No data available.

Substance data: No data available.

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction

Product data:

No data available.

Substance data:

Name	Result
Di(benzothiazol-2-yl) disulphide	May cause sensitization by skin contact.
Thiram (ISO); tetramethylthiuram disulphide	May cause an allergic skin reaction.

Carcinogenicity

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

Product data: No data available.

Substance data:

Name	Species	Result
Distillates (petroleum), hydrotreated heavy paraffinic	Not applicable.	The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.
Bounded Carbon Black	Not applicable.	The carcinogenic classification only applies to airborne, unbound particles of respirable size.
Magnesium oxide	Not applicable	American Conference of Governmental Industrial Hygienists - A4: Not classifiable as a human carcinogen

International Agency for Research on Cancer (IARC):

Name	Classification
Bounded Carbon Black	Group 2B - Possibly carcinogenic to humans
Polyethylene	Group 3 - Not classifiable as to its carcinogenicity to humans

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

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

Product data: No data available.

Substance data:

Name	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	The mutagenic classification applies to naphtha streams containing >0.1% Benzene.

Reproductive Toxicity

Assessment:

Suspected of damaging fertility or the unborn child

Product data:

No data available.

Substance data:

Name	Result
2,2'-Methylenebis(4-methyl-6-tertiarybutyl phenol)	Suspected of damaging fertility or the unborn child.

Name	Result
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	The classification as a reproductive toxicant only applies when the naphtha stream contains >3% toluene and/or n-hexane.

Specific target organ toxicity (single exposure)

Assessment:

May cause drowsiness or dizziness

Product data:

No data available.

Substance data:

Name	Result
Heptane	May cause drowsiness or dizziness.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure)

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

Product data:

No data available.

Substance data:

Name	Result
Thiram (ISO); tetramethylthiuram disulphide	May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

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

Product data:

No data available.

Substance data:

Name	Result
Heptane	May be fatal if swallowed and enters airways.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	May be fatal if swallowed and enters airways.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

Refer to Section 4 of this SDS.

Other information:

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) toxicity

Assessment:

Toxic to aquatic life

Product data: No data available.

Substance data:

Name	Result
2,2'-Methylenebis(4-methyl-6-tertiarybutyl phenol)	EC50 (48 h): 4.8 mg/L
	NOEC (21 days): 340 µg/L
	EC50 (72 h): 5 mg/L
Thiram (ISO); tetramethylthiuram disulphide	LC50 - Oncorhynchus mykiss (Rainbow trout) - 0.046 mg/L - 96 h
	EC50 - Daphnia magna (Water flea) - 0.38 mg/L - 48 h
	NOEC - Pimephales promelas - 0.0046 mg/L - 33 d
	NOEC - Daphnia magna - 0.02 mg/L - 21 d
Heptane	LC50 - Carassius auratus (goldfish) - 4 mg/l - 24.0 h
	EC50 - Daphnia magna - 82.5 mg/L - 96 h
	EC50 Daphnia magna: 1.5 mg/L (48 hr)
Zinc oxide	Oncorhynchus mykiss (rainbow trout) - 1.1 mg/l - 96.0 h
	Daphnia magna (Water flea) - 0.098 mg/l - 48 h
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	ErC50 Selenastrum capricornutum: 3.1 mg/L (72 hr)
	EC50 Daphnia magna: 4.5 mg/L (48 hr)

Chronic (long-term) toxicity

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

Product data: No data available.

Substance data:

Name	Result
2,2'-Methylenebis(4-methyl-6-tertiarybutyl phenol)	NOEC (21 days): 340 µg/L
Thiram (ISO); tetramethylthiuram disulphide	NOEC - Pimephales promelas - 0.0046 mg/L - 33 d
	NOEC - Daphnia magna - 0.02 mg/L - 21 d
Heptane	NOEC Oncorhynchus mykiss: 1.28 mg/L (28 days)
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	EC50 Daphnia magna: 10 mg/L (10 days)

12.2 Persistence and degradability

Product data: No data available.

Substance data:

Name	Result
Heptane	Readily biodegradable in water.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance (UVCB).

12.3 Bioaccumulative potential

Product data: No data available.

Substance data:

Name	Result
Heptane	Calculated BCF: 552 (Not expected to bioaccumulate).
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance (UVCB).

12.4 Mobility in soil

Product data: No data available.

Substance data:

Name	Result
Heptane	Moderately Mobile (log Koc: 2.38)

12.5 Results of PBT and vPvB assessment

PBT assessment:

Heptane	This substance is not PBT.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	This substance is not PBT.

vPvB assessment:

Heptane	This substance is not vPvB.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	This substance is not vPvB.

12.6 Other adverse effects: No data available.

SECTION 13: Disposal considerations

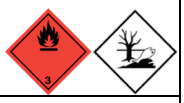
13.1 Waste treatment methods

Relevant information:

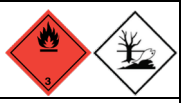
Consult with EU Directive 2008/98/EC for the classifications of hazardous waste prior to disposal. Furthermore, consult with your regional, national or European waste requirements or guidelines, if applicable, to ensure compliance. Final decisions on the appropriate waste management method, in line with regional, national and European legislation, remains the responsibility of the waste treatment operator

SECTION 14: Transport information

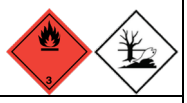
International Carriage of Dangerous Goods by Road/Rail (ADR/RID)

UN number	UN1133
UN proper shipping name	Adhesives
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
Special precautions for user	None

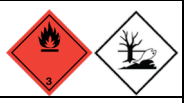
International Carriage of Dangerous Goods by Inland Waterways (ADN)

UN number	UN1133
UN proper shipping name	Adhesives
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN1133
UN proper shipping name	Adhesives
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN1133
UN proper shipping name	Adhesives
UN transport hazard class(es)	3 
Packing group	II
Environmental hazards	Marine Pollutant (Heptane and Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics)
Special precautions for user	None

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	
Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

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

European regulations

Inventory listing (EINECS):

64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic	Listed
1333-86-4	Bounded Carbon Black	Listed
1309-48-4	Magnesium oxide	Listed
57-11-4	Stearic acid	Listed
119-47-1	2,2'-Methylenebis(4-methyl-6-tertiarybutyl phenol)	Listed
9002-88-4	Polyethylene	Not Listed
1314-13-2	Zinc oxide	Listed
120-78-5	Di(benzothiazol-2-yl) disulphide	Listed
137-26-8	Thiram (ISO); tetramethylthiuram disulphide	Listed
8042-47-5	White Mineral Oil	Listed
142-82-5	Heptane	Listed
64742-49-0	Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Listed

REACH SVHC candidate list: None of the ingredients are listed.

REACH SVHC Authorizations: None of the ingredients are listed.

REACH Restriction: None of the ingredients are listed.

Water hazard class (WGK) (Product): Not determined.

Water hazard class (WGK) (Substance):

Ingredient Name	CAS	Class
Bounded Carbon Black	1333-86-4	Non-hazardous to water.
Stearic acid	57-11-4	Non-hazardous to water.
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	2
Zinc oxide	1314-13-2	2
White Mineral Oil	8042-47-5	1
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	1
Magnesium oxide	1309-48-4	1
2,2'-Methylenebis(4-methyl-6-tertiarybutyl phenol)	119-47-1	1
Polyethylene	9002-88-4	Not applicable.
Thiram (ISO); tetramethylthiuram disulphide	137-26-8	3
Di(benzothiazol-2-yl) disulphide	120-78-5	2
Heptane	142-82-5	2

Other regulations

Germany TA Luft: Not applicable, Class I; Mass flow: 0.1 kg/hr; Maximum Concentration Allowed if Emissions Exceed Base Rate: 20 mg/m^3

Germany MAK: Zinc oxide: 8-hour TWA: 0.1 mg/m^3 [Zinc and its inorganic compounds (respirable fraction)], Zinc oxide: 8-hour TWA: 2 mg/m^3 [Zinc and its inorganic compounds (inhalable fraction)], Heptane: 8-hour TWA: 500 ppm (2100 mg/m^3), Magnesium oxide: 8-hour TWA: 1.5 mg/m^3 (respirable fraction), Magnesium oxide: 8-hour TWA: 4 mg/m^3 (inhalable fraction), Thiram (ISO); tetramethylthiuram disulphide: 8-hour TWA: 1 mg/m^3 (inhalable fraction), White Mineral Oil: 8-hour TWA: 5 mg/m^3 (respirable fraction)

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other information

Indication of changes:

September 9, 2020: Reviewed/Updated to comply with the 12th and 14th Adaptation to Technical Progress (ATP) of the CLP Regulation. Composition update, resulting in updated occupational exposure limits

Abbreviations and Acronyms: None

Classification procedure:

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Flammable liquids, category 2	Calculation method
Skin irritation, category 2	Calculation method

Classification according to Regulation (EC) No. 1272/2008 (CLP)	Method Used
Specific target organ toxicity - single exposure, category 3, central nervous system	Calculation method
Chronic aquatic hazard, category 2	Calculation method

Summary of classification(s) in section 3:

Stot SE 3; H336	Specific target organ toxicity - single exposure, category 3, central nervous system
Asp. Tox. 1; H304	Aspiration hazard, category 1
Aquatic Chronic 2; H411	Chronic aquatic hazard, category 2
Skin Irrit. 2 ; H315	Skin irritation, category 2
Flam. Liq. 2; H225	Flammable liquids, category 2
Aquatic Acute 1; H400	Acute aquatic hazard, category 1
Aquatic Chronic 1; H410	Chronic aquatic hazard, category 1
Skin Sens. 1; H317	Skin sensitization, category 1
Acute Tox. 4; H302	Acute toxicity (oral), category 4
Acute Tox. 4; H332	Acute toxicity (inhalation), category 4
Eye Irrit. 2; H319	Eye irritation, category 2A
Stot RE 2; H373	Specific target organ toxicity - repeated exposure, category 2
Repr. 2; H361	Reproductive toxicity, category 2
Aquatic Chronic 4; H413	Chronic aquatic hazard, category 4

Summary of hazard statements in section 3:

H336	May cause drowsiness or dizziness
H304	May be fatal if swallowed and enters airways
H411	Toxic to aquatic life with long lasting effects
H315	Causes skin irritation
H225	Highly flammable liquid and vapour
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H317	May cause an allergic skin reaction
H302	Harmful if swallowed
H332	Harmful if inhaled
H319	Causes serious eye irritation
H373	May cause damage to organs through prolonged or repeated exposure
H361	Suspected of damaging fertility or the unborn child
H413	May cause long lasting harmful effects to aquatic life

Disclaimer:

This product has been classified in accordance with EC No. 1272/2008 (CLP), as amended by Commission Regulation (EU) 2019/521 and Commission Delegated Regulation (EU) 2020/217, and EC No. 1907/2006 (REACH). The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation, and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

Initial preparation date: 05.01.2018
Revision date: 09.09.2020

End of Safety Data Sheet