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

1.1. Product identifier

MITANOL Turbo 20W-50 Classic

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

Use of the substance/mixture

Motor oil multigrade

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	MITANOL GmbH	
Street:	Industriestraße 8	
Place:	D-49577 Ankum	
Telephone:	+49 (0)5462/7470-50	Telefax: +49 (0)5462/7470-33
e-mail:	info@mitanol.de	
Internet:	www.mitanol.de	
Responsible Department:	Produktsicherheit / Product Safety sicherheitsdatenblatt@mitanol.de	

1.4. Emergency telephone number:

Giftinformationszentrum Nord (Göttingen)
+49 (0)551/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

Regulation (EC) No. 1272/2008

Special labelling of certain mixtures

EUH208 Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts, Alkyl-(C18-C28) toluenesulfonic acid, calcium salts, borated. May produce an allergic reaction.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Preparation of base oils and additives.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts			1 - < 2,5 %
	272-238-5		01-2119657973-23	
	Eye Dam. 1, Aquatic Chronic 2; H318 H411			
722503-68-6	Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts			0,1 - < 1,0 %
	682-816-2			
	Skin Sens. 1, Aquatic Chronic 4; H317 H413			
	Alkyl-(C18-C28) toluenesulfonic acid, calcium salts, borated			0,1 - < 1,0 %
	953-650-0			
	Repr. 2, Skin Sens. 1B; H361d H317			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
68784-31-6	272-238-5	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts	1 - < 2,5 %
	dermal: LD50 = > 5000 mg/kg; oral: LD50 = 3400 mg/kg		
	953-650-0	Alkyl-(C18-C28) toluenesulfonic acid, calcium salts, borated	0,1 - < 1,0 %
	Repr. 2; H361d: >= 17,5 - 100		

Further Information

Test data verify that the zinc dialkyl dithiophosphate does not cause the classification of the product as “Eye irritant 2”. All concentrations are units of weight percent for liquids, and unit of volume percent for gaseous products.

This mixture contains no substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from the danger area and lay down.
Do not leave affected person unattended.
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. Call a doctor if you feel unwell.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.
Take off contaminated clothing and wash it before reuse.
In case of skin irritation, consult a physician.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

Rinse mouth thoroughly with water.

Let water be drunken in little sips (dilution effect).
Do NOT induce vomiting.
In all cases of doubt, or when symptoms persist, seek medical advice.

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use water spray jet to protect personnel and to cool endangered containers.
Co-ordinate fire-fighting measures to the fire surroundings.

- Water spray jet
- Carbon dioxide (CO2).
- Extinguishing powder
- Foam

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.
In case of fire may be liberated:

- Carbon monoxide (CO)
- Carbon dioxide (CO2).
- Nitrogen oxides (NOx)
- Hydrogen sulphide (H2S)
- Phosphorus oxides
- Pyrolysis products, toxic

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Use of protective clothing
In case of fire and/or explosion do not breathe fumes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

Keep people at a distance and stay on the windward side.
Special danger of slipping by leaking/spilling product.

For non-emergency personnel

Wear protective gloves/protective clothing and eye/face protection.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.
Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

For containment

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.
Remove from the water surface (e.g. skimming, sucking).

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid formation of oil dust.
Use personal protection equipment.
Do not put any product-impregnated cleaning rags into your trouser pockets.
Clear spills immediately.

Advice on protection against fire and explosion

No special fire protection measures are necessary.
Take precautionary measures against static discharges.
Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed and in a well-ventilated place.
Keep only in the original container. Store in a cool dry place. (Protect from moisture.)
Floors should be impervious, resistant to liquids and easy to clean.

Hints on joint storage

Do not store together with:
- Materials capable of ignition under almost all normal temperature conditions
- Explosives

7.3. Specific end use(s)

Motor oil multigrade

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts			
Worker DNEL, long-term		inhalation	local	5,58 mg/m³
Consumer DNEL, long-term		inhalation	local	1,19 mg/m³
Worker DNEL, long-term		inhalation	systemic	2,93 mg/m³
Worker DNEL, acute		inhalation	systemic	496,4 mg/m³
Worker DNEL, long-term		dermal	systemic	10,42 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	100 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	11,75 mg/m³
Consumer DNEL, acute		inhalation	systemic	198,6 mg/m³
Consumer DNEL, long-term		dermal	systemic	2,1 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	50 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,21 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	29 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts	
Freshwater		0,004 mg/l
Freshwater (intermittent releases)		0,044 mg/l
Marine water		0,0046 mg/l
Freshwater sediment		0,07 mg/kg
Marine sediment		0,007 mg/kg
Secondary poisoning		8,33 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,8 mg/l
Soil		0,055 mg/kg

Additional advice on limit values

To date, no national critical limit values exist.

8.2. Exposure controls


Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.
When using do not eat, drink, smoke, sniff.

Eye/face protection

During filling, metering, mixing and sampling must be used:

Wear eye/face protection. DIN EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Recommended glove articles: EN ISO 374
Suitable material: NBR (Nitrile rubber)
Thickness of the glove material: 0,4 mm
Breakthrough times and swelling properties of the material must be taken into consideration. Breakthrough time: > 8h
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	brown
Odour:	characteristic
Odour threshold:	not determined

		Test method
pH-Value:	not determined	
Changes in the physical state		
Melting point:	not determined	
Boiling point or initial boiling point and boiling range:	> 320 °C	
Pour point:	-36 °C	ISO 3016
Flash point:	> 210 °C	DIN ISO 2592
Flammability		
Solid/liquid:	not applicable	
Gas:	not applicable	

Explosive properties

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

Lower explosion limits:	0,6 vol. %
Upper explosion limits:	6,5 vol. %
Self-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined

Oxidizing properties

The product is not: oxidising.

Vapour pressure:	not determined
Density (at 15 °C):	0,877 g/cm³
Water solubility:	not determined

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined
Viscosity / dynamic:	not determined
Viscosity / kinematic: (at 40 °C)	142 mm²/s
Relative vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

Solid content:	not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

The formation of combustible vapours is possible at temperatures above: Flash point

10.4. Conditions to avoid

Avoid: Thermal decomposition

10.5. Incompatible materials

Materials to avoid:

- Oxidising agent

10.6. Hazardous decomposition products

Hazardous combustion products:

- Carbon monoxide (CO)
- Carbon dioxide (CO2).
- Nitrogen oxides (NOx)
- Hydrogen sulphide (H2S)
- Phosphorus oxides
- Pyrolysis products, toxic

SECTION 11: Toxicological information

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

Acute toxicity

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts				
	oral	LD50 3400 mg/kg	Rat	Study report (1981)	OECD Guideline 401
	dermal	LD50 > 5000 mg/kg	Rabbit	Study report (1981)	OECD Guideline 402

Irritation and corrosivity

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

Sensitising effects

Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts, Alkyl-(C18-C28) toluenesulfonic acid, calcium salts, borated. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

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

The product contains less than 3% DMSO extract (method IP346). A classification as a carcinogen with R45 is deleted. (Note L)

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

11.2. Information on other hazards

Endocrine disrupting properties

No information available.

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts						
	Acute fish toxicity	LL50	4,4 mg/l	96 h	Oncorhynchus mykiss	Study report (2002)	OECD Guideline 203
	Acute algae toxicity	ErC50	410 mg/l	72 h	Desmodesmus subspicatus	Study report (2004)	OECD Guideline 201
	Acute crustacea toxicity	EL50	75 mg/l	48 h	Daphnia magna	Study report (2005)	OECD Guideline 202
	Fish toxicity	NOEC mg/l	>= 1000	14 d	Oncorhynchus mykiss	CONCAWE, Brussels, Belgium (2010)	The aquatic toxicity was estimated by a
	Crustacea toxicity	NOEC	0,4 mg/l	21 d	Daphnia magna	Study report (2010)	OECD Guideline 211

12.2. Persistence and degradability

Not readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
68784-31-6	Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts	ca. 4

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Water hazard class (D):	1 - slightly hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
ICAO: International Civil Aviation Organization
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see table at http://abbrev.esdscom.eu

Relevant H and EUH statements (number and full text)

H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.

H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH208	Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts, Alkyl-(C18-C28) toluenesulfonic acid, calcium salts, borated. May produce an allergic reaction.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)