



ZFS 4T Performance 20w50

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 10/8/2025 Version: 1.1

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

1.1. Product identifier

Product form : Mixture
Product name : ZFS 4T Performance 20w50
Product code : 8647

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

Relevant identified uses

Use of the substance/mixture : Engine oil

1.3. Details of the supplier of the safety data sheet

Manufacturer

Millers Oils Ltd
Hillside Oil Works Hillside Oil works
Rastrick Common
GB HD6 3DP Brighouse, West Yorkshire
United Kingdom
T +44 (0)1484 713201, F +44 (0)1484 721263
h.s@millersoils.co.uk

1.4. Emergency telephone number

Emergency number : 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC substance with national workplace exposure limit(s) (AT, BE, CZ, DE, EE, ES, FI, FR, GB, GR, HR, IE, IT, LV, NL, PL, PT, SI, CH); substance with a Community workplace exposure limit	CAS-No.: 64742-54-7 EC-No.: 265-157-1 REACH-no: 01-2119484627-25	≥ 30 – < 70	Not classified
LUBRICATING OILS (PETROLEUM), C20-50, HYDROTREATED NEUTRAL OIL-BASED	CAS-No.: 72623-87-1 EC-No.: 276-738-4 REACH-no: 01-2119474889-13	≥ 10 – < 30	Asp. Tox. 1, H304
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC	CAS-No.: 64742-55-8 EC-No.: 265-158-7 REACH-no: 01-2119487077-29	≥ 1 – < 10	Asp. Tox. 1, H304
Distillates (petroleum), solvent-dewaxed heavy paraffinic	CAS-No.: 64742-65-0 EC-No.: 265-169-7	< 10	Asp. Tox. 1, H304

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing and wash it before reuse.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Get medical advice/attention if you feel unwell. Rinse mouth. Do not induce vomiting.
Self protection of the first-aider	: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

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	: Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.

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Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Ventilate spillage area. See section 8 of the SDS for more information on personal protective equipment.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation. Absorb spilled material with sand or earth.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.

Storage conditions : Keep cool. Protect from sunlight.

Packaging materials : Always store product in container of same material as original container.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)

EU - Indicative Occupational Exposure Limit (IOEL)

IOEL TWA	5 mg/m ³
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DNEL and PNEC

LUBRICATING OILS (PETROLEUM), C20-50, HYDROTREATED NEUTRAL OIL-BASED (72623-87-1)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	0.97 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.73 mg/m ³
Long-term - local effects, inhalation	5.58 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	0.74 mg/kg bodyweight/day
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PNEC (Oral)

PNEC oral (secondary poisoning)	9.33 mg/kg food
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DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	0.97 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.73 mg/m ³
Long-term - local effects, inhalation	5.58 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	0.74 mg/kg bodyweight/day
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PNEC (Oral)

PNEC oral (secondary poisoning)	9.33 mg/kg food
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

DNEL/DMEL (Workers)

Long-term - systemic effects, dermal	0.97 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	2.73 mg/m ³
Long-term - local effects, inhalation	5.58 mg/m ³

DNEL/DMEL (General population)

Long-term - systemic effects, oral	0.74 mg/kg bodyweight/day
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PNEC (Oral)

PNEC oral (secondary poisoning)	9.33 mg/kg food
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8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

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Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses

Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

No respiratory protection needed under normal use conditions

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Not available
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Non flammable
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 200 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 149 mm ² /s @40oC
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 0.875 @15oC
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

LUBRICATING OILS (PETROLEUM), C20-50, HYDROTREATED NEUTRAL OIL-BASED (72623-87-1)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
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DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	> 5.53 mg/l/4h

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
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Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

LUBRICATING OILS (PETROLEUM), C20-50, HYDROTREATED NEUTRAL OIL-BASED (72623-87-1)

LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	> 0.98 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

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DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	> 0.98 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
LOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	> 0.98 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

Aspiration hazard : Not classified

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Viscosity, kinematic	149 mm ² /s @40°C

DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)	
Viscosity, kinematic	15 – 21 mm ² /s @40°C

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC (64742-55-8)	
Viscosity, kinematic	990 mm ² /s @40

11.2. Information on other hazards

Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC (64742-55-8)	
LC50 - Fish [1]	> 100 mg/l
EC50 - Crustacea [1]	> 10 mg/l

Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)	
EC50 - Other aquatic organisms [1]	> 10000 mg/l

12.2. Persistence and degradability

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Persistence and degradability	Not established.

LUBRICATING OILS (PETROLEUM), C20-50, HYDROTREATED NEUTRAL OIL-BASED (72623-87-1)	
Persistence and degradability	Not rapidly degradable

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DISTILLATES (PETROLEUM) HYDROTREATED HEAVY PARAFFINIC (64742-54-7)

Persistence and degradability	Not rapidly degradable
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DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC (64742-55-8)

Persistence and degradability	Not rapidly degradable
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Distillates (petroleum), solvent-dewaxed heavy paraffinic (64742-65-0)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

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Bioaccumulative potential	No bioaccumulation data available.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties	: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.
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12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Avoid release to the environment.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated for transport				
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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ADR	IMDG	IATA	ADN	RID
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not regulated

Transport by sea
Not regulated

Air transport
Not regulated

Inland waterway transport
Not regulated

Rail transport
Not regulated

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

EU-Regulations

REACH Annex XVII (Restriction List)
Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)
Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)
Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)
Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)
Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (2024/590)
Not listed on the Ozone Depletion list (Regulation EU 2024/590)
Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items
Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)
Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

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Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstracts Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development

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Abbreviations and acronyms:

OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:

Asp. Tox. 1	Aspiration hazard, Category 1
H304	May be fatal if swallowed and enters airways.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.