



SAFETY DATA SHEET

According to HSNO Approved Code of Practice 8-1 09-06

EQUIVIS ZS 46

SDS #: 083033

Section 1. Identification

Product name : EQUIVIS ZS 46

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

Identified uses

Hydraulic oil

Supplier's details :

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Section 2. Hazards identification

HSNO Classification : Not classified.

This material is not classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

This material is not classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

**Section 3. Composition/information on ingredients**

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic	≥90	64742-54-7
Distillates (petroleum), hydrotreated light paraffinic	≤3	64742-55-8
2,6-di-tert-butylphenol	<0.25	128-39-2

Additional information : Mineral oil of petroleum origin Product containing mineral oil with less than 3% DMSO extract as measured by IP 346

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures**Description of necessary first aid measures**

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed**Potential acute health effects**

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Eye contact** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Eyes** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Specific treatments** : No specific treatment.



- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Not suitable** : Do not use water jet.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Hazchem code** : Not available.
- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures** : Specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

- Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8).



Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	NZ HSWA 2015 - GRWM 2016 (New Zealand, 4/2022). [Oil mineral mist] WES-TWA: 5 mg/m ³ 8 hours. Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Form: Mist
Distillates (petroleum), hydrotreated light paraffinic	NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020). [Oil mineral] WES-TWA: 5 mg/m ³ 8 hours. Form: Mist WES-STEL: 10 mg/m ³ 15 minutes. Form: Mist

Advisory OEL : Mineral oil mist: USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Hydrocarbon-proof gloves
Fluorinated rubber
nitrile rubber
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.



Skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

Appearance

Physical state : Liquid. [limpid]
Color : Colorless.
Odor : Characteristic.
Odor threshold : Not available.
pH : Not available.
Melting point/freezing point : Not available.
Boiling point : Not available.
Flash point : Open cup: 190°C (374°F) [ASTM D 92]
Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Lower and upper explosive (flammable) limits : Not available.
Vapor pressure : Not available.
Vapor density : Not available.
Relative density : 0.861 [ASTM D 4052]
Density : 0.861 g/cm³ [15°C] [ASTM D 4052]
Solubility(ies) :

Media	Result
<input checked="" type="checkbox"/> Cold water	Not soluble
hot water	Not soluble

Miscible with water : No.
Partition coefficient: n-octanol/water : Not applicable.
Auto-ignition temperature : Not available.
Decomposition temperature : Not available.
Viscosity : Kinematic (40°C (104°F)): 46 mm²/s (46 cSt) [ASTM D 445]
Flow time (ISO 2431) : Not available.
Particle characteristics
Median particle size : Not applicable.

Section 10. Stability and reactivity

Chemical stability : Stable under recommended storage and handling conditions (see Section 7).
Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid : No specific data.
Incompatible materials : No specific data.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Section 11. Toxicological information****Information on the likely routes of exposure**

- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Defatting to the skin. May cause skin dryness and irritation.
- Eye contact** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
dryness
cracking
- Eye contact** : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure**Acute toxicity**

Product/substance	Result	Species	Dose	Exposure	Test
Distillates (petroleum), hydrotreated heavy paraffinic	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	OECD 403
	LD50 Dermal	Rabbit	>5000 mg/kg	-	Read across OECD 402
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	Read across OECD 401
Distillates (petroleum), hydrotreated light paraffinic	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours	Read across OECD 403
	LD50 Dermal	Rabbit	>5000 mg/kg	-	OECD 402
	LD50 Oral	Rat	>5000 mg/kg	-	OECD 420
2,6-di-tert-butylphenol	LD50 Dermal	Rabbit	>5000 mg/kg	-	-
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401
			Single dose		401

Conclusion/Summary : Based on available data, the classification criteria are not met.

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
2,6-di-tert-butylphenol	Eyes - Cornea opacity	Rabbit	0	-	OECD 405
	Skin - Moderate irritant	Rat	-	4 hours 0.5 MI	OECD 404

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

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

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

Sensitization

Product/substance	Route of exposure	Species	Result
2,6-di-tert-butylphenol	skin	Guinea pig	Not sensitizing

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

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

Potential chronic health effects



- General** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Eye contact** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.

Chronic toxicity

Product/substance	Result	Species	Dose	Exposure
2,6-di-tert-butylphenol	Sub-chronic NOAEL Oral	Rat - Male, Female	100 mg/kg NOAEL	days

Carcinogenicity

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Mutagenicity

Product/substance	Test	Experiment	Result
2,6-di-tert-butylphenol	OECD 471 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Teratogenicity

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Reproductive toxicity

Product/substance	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
2,6-di-tert-butylphenol	-	Negative	Negative	Rat - Male, Female	Oral	-

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Specific target organ toxicity

Not available.

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Aspiration hazard

Name
Distillates (petroleum), hydrotreated light paraffinic

- Conclusion/Summary** : Based on available data, the classification criteria are not met.

Numerical measures of toxicity

Acute toxicity estimates

N/A

Other information :



Not available.

Section 12. Ecological information**Ecotoxicity** : No known significant effects or critical hazards.**Aquatic and terrestrial toxicity**

Product/substance	Result	Species	Exposure	Test
Distillates (petroleum), hydrotreated heavy paraffinic	Acute LL50 >100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	OECD 201
	Acute LL50 >10000 mg/l	Crustaceans - Daphnia magna	48 hours	OECD 202
	Chronic NOEL >100 mg/l	Algae - Pseudokirchneriella subcapitata	72 hours	OECD 201
	Chronic NOEL 10 mg/l	Crustaceans - Daphnia magna	21 days	-
	Chronic NOEL >1000 mg/l	Fish - Oncorhynchus mykiss	21 days	-
Distillates (petroleum), hydrotreated light paraffinic	Acute EC50 >100 mg/l	Algae - Pseudokirchnerella subcapitata	48 hours	OECD 201
	Acute EC50 >10000 mg/l	Daphnia - Daphnia magna	48 hours	OECD 202
	Chronic NOEL 10 mg/l	Daphnia - Daphnia magna	21 days	OECD 211
	Chronic NOEL >1000 mg/l	Fish - Oncorhynchus mykiss	21 days	-
2,6-di-tert-butylphenol	Acute EC50 1.2 mg/l	Algae	72 hours	-
	Acute EC50 0.45 mg/l	Daphnia - Daphnia magna	48 hours	-
	Acute LC50 1 mg/l	Fish	96 hours	-
	Chronic NOEC 0.035 mg/l	Daphnia - Daphnia magna	21 days	-
	Chronic NOEC 0.3 mg/l	Fish	28 days	-

Persistence/degradability

Product/substance	Test	Result	Dose	Inoculum
Distillates (petroleum), hydrotreated heavy paraffinic	OECD 301F	31 % - Not readily - 28 days	-	Activated sludge

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Distillates (petroleum), hydrotreated heavy paraffinic	-	-	Not readily
2,6-di-tert-butylphenol	-	-	Not readily

Bioaccumulative potential

Product/substance	LogK _{ow}	BCF	Potential
2,6-di-tert-butylphenol	4.48	660	high

Mobility in soil**Soil/water partition coefficient (K_{oc})** : Not available.**Mobility in soil** : Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited.**Other adverse effects** : No known significant effects or critical hazards.

**Section 13. Disposal considerations**

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	New Zealand	IMDG	ICAO/IATA
UN/ID No	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

HSNO Approval Number : HSR002605

HSNO Group Standard : Lubricants low Hazard

HSNO Classification : Not classified.

International regulations**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)



Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIC)	: All components are listed or exempted.
Canada inventory (DSL/NDL)	: All components are listed or exempted.
China inventory (IECSC)	: All components are listed or exempted.
Europe inventory (EC)	: <input checked="" type="checkbox"/> All components are listed or exempted.
Japan inventory	: <input checked="" type="checkbox"/> Japan inventory (CSCL) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC)	: All components are listed or exempted.
Philippines inventory (PICCS)	: All components are listed or exempted.
Korea inventory (KECI)	: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI)	: All components are listed or exempted.
Thailand inventory	: Not determined.
Turkey inventory	: Not determined.
United States inventory (TSCA 8b)	: All components are listed or exempted.
Vietnam inventory	: Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

Section 16. Other information

History

Date of revision : 2023/04/29

previous revision date : 2022/05/10

Version : 1.01

Key to abbreviations

: ADG = Australian Dangerous Goods
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader



TotalEnergies

EQUIVIS ZS 46

SDS # : 083033

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.