



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 38009

HYDRANSAFE HFDU 68

Date of the previous version: 2017-10-31

Revision Date: 2018-01-16

Version 1.02

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	HYDRANSAFE HFDU 68
Number	NTS
Substance/mixture	Mixture

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

Identified uses	Fire-resistant hydraulic fluid.
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1.3. Details of the supplier of the safety data sheet

Supplier	<p>A - TOTAL UK LIMITED 183 Eversholt St, Kings Cross London, NW1 1BU UNITED KINGDOM Tel: +44 (0)20 7339 8000 Fax: +44 (0)20 7339 8033</p> <p>B - TOTAL LUBRIFIANTS 562 Avenue du Parc de L'île 92029 Nanterre Cedex FRANCE Tél: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 84 71</p>
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For further information, please contact:

Contact Point	A - HSE
	B - HSE
E-mail Address	A - rm.gb-msds@total.co.uk
	B - rm.msds-lubs@total.com

1.4. Emergency telephone number

Emergency telephone: +44 1235 239670

UK: National Poisons Information Service (NPIS): NHS on 111 or a doctor

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

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REGULATION (EC) No 1272/2008

For the full text of the H-Statements mentioned in this Section, see Section 2.2.

Classification

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008

2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008

Signal word

None

Hazard Statements

None

Precautionary statements

None

Supplemental Hazard Statements

EUH210 - Safety data sheet available on request

2.3. Other hazards

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.

Environmental properties The product may form an oil film on the water surface that may stop the oxygen exchange.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

Chemical nature

The product is made from synthetic base oils.

Hazardous components

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Reg. 1272/2008)
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydrox y-C7-C9 branched alkyl ester	406-040-9	no data available	125643-61-0	1-<2.5	Aquatic Chronic 4 (H413)
(Z)-N-methyl-N-(1-oxo-9-oct adecenyl)glycine	203-749-3	01-2119488991-20	110-25-8	0.1-<0.25	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Acute Tox. 4 (H332) Aquatic Acute 1 (H400) Acute M factor = 1

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Additional information

Product containing mineral oil with less than 3% DMSO extract as measured by IP 346.

For the full text of the H-Statements mentioned in this Section, see Section 16.**Section 4: FIRST AID MEASURES****4.1. Description of first aid measures**

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse.
Inhalation	Remove casualty to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration.
Ingestion	Clean mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.
Protection of first-aiders	First aider needs to protect himself. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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

Eye contact	Not classified based on available data.
Skin contact	Not classified based on available data.
Inhalation	Not classified based on available data. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

Notes to physician	Treat symptomatically.
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Section 5: FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media	Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.

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5.2. Special hazards arising from the substance or mixture

Special hazard Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Combustion products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S. Phosphorous oxides. Nitrogen oxides (NO_x). Mercaptans. Silicon dioxide.

5.3. Precautions for fire-fighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.

Other information Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

General Information Do not allow material to contaminate ground water system. Prevent entry into waterways, sewers, basements or confined areas. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment Dike to collect large liquid spills. If necessary dike the product with dry earth, sand or similar non-combustible materials.

Methods for cleaning up Dispose of contents/container in accordance with local regulation. In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

6.4. Reference to other sections

Personal protective equipment See Section 8 for more detail.

Waste treatment See section 13.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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Advice on safe handling	For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Prevention of fire and explosion	Take precautionary measures against static discharges.
Hygiene measures	Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing. Do not use abrasives, solvents or fuels. Do not dry hands with rags that have been contaminated with product. Do not put product contaminated rags into workwear pockets.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Preferably keep in the original container. Otherwise, reproduce all the statutory information from the labels onto the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Store at room temperature. Protect from moisture.
Materials to avoid	Strong oxidising agents.

7.3. Specific use(s)

Specific use(s)	Please refer to Technical Data Sheet for further information.
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Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure limits	Do not contain substance with European workplace exposure limits in concentration above regulatory thresholds
Legend	See section 16

Derived No Effect Level (DNEL)

DNEL Worker (Industrial/Professional)

Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester 125643-61-0			0.5 mg/kg Dermal 3.5 mg/m ³ Inhalation	
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine 110-25-8	18 mg/m ³ Inhalation 100 mg/kg bw/day Dermal	18 mg/m ³ Inhalation	0.2 mg/m ³ Inhalation 10 mg/kg bw/day Dermal	0.01 mg/m ³ Inhalation

DNEL Consumer

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Chemical Name	Short term, systemic effects	Short term, local effects	Long term, systemic effects	Long term, local effects
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester 125643-61-0			0.25 mg/kg Dermal 0.25 mg/kg Oral	
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine 110-25-8	9 mg/m ³ Inhalation 50 mg/kg bw/day Dermal 92 mg/kg bw/day Oral	9 mg/m ³ Inhalation	0.1 mg/m ³ Inhalation 5 mg/kg bw/day Dermal 5 mg/kg bw/day Oral	0.005 mg/m ³ Inhalation

Predicted No Effect Concentration (PNEC)

Chemical Name	Water	Sediment	Soil	Air	STP	Oral
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester 125643-61-0	0.01 mg/l fw 0.001 mg/l mw 1 mg/l or	0.37 mg/kg dw fw 0.037 mg/kg dw mw	3.16 mg/kg		10 mg/l	
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine 110-25-8	0.00043 mg/l fw 0.000043 mg/l mw 0.0043 mg/l or				13 mg/l	

8.2. Exposure controls

Occupational Exposure Controls

Engineering measures

Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

General Information

Protective engineering solutions should be implemented and in use before personal protective equipment is considered. The personal protective equipment (PPE) recommendations apply to the product AS DELIVERED. In case of mixtures or formulations, it is suggested that you contact the relevant PPE suppliers.

Respiratory protection

None under normal use conditions. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 14387). Type A/P1. Warning ! filters have a limited use duration. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye protection

If splashes are likely to occur, wear: Safety glasses with side-shields. EN 166.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing. Type 4/6.

Hand protection

Hydrocarbon-proof gloves. Fluorinated rubber. Nitrile rubber. In case of prolonged contact

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with the product, it is recommended to wear gloves complying with EN 420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency. 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.

Environmental exposure controls

General Information The product should not be allowed to enter drains, water courses or the soil.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance		Clear	
Colour		yellow	
Physical state @20°C		liquid	
Odour		characteristic	
Odour Threshold		No information available	
Property	Values	Remarks	Method
pH		Not applicable	
Melting point/range		No information available	
Boiling point/boiling range		No information available	
Flash point	330 °C 626 °F		ISO 2592 ISO 2592
Evaporation rate		No information available	
Flammability Limits in Air			
Upper		No information available	
Lower		No information available	
Vapour pressure		No information available	
Vapour density		No information available	
Relative density	0.933	@ 15 °C	ISO 3675
Density	933 kg/m ³	@ 15 °C	ISO 3675
Water solubility		Insoluble	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic	62.6 - 74.4 mm ² /s	@ 40 °C	ISO 3104
Explosive properties	Not explosive		
Oxidising properties	Not applicable		
Possibility of hazardous reactions	None under normal processing		

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9.2. Other information

Freezing point

No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

General Information

None under normal processing.

10.2. Chemical stability

Stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Keep away from heat and sparks.

10.5. Incompatible materials

Materials to avoid

Strong oxidising agents.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. Other decomposition products. Phosphorous oxides. Nitrogen oxides (NOx). Mercaptans. Combustion products include sulphur oxides (SO₂ and SO₃) and Hydrogen sulphide H₂S. Silicon dioxide.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity Local effects Product Information

Skin contact

. Not classified based on available data.

Eye contact

. Not classified based on available data.

Inhalation

. Not classified based on available data. Inhalation of vapours in high concentration may cause irritation of respiratory system.

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Ingestion . Not classified based on available data. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

ATEmix (inhalation-dust/mist) 268.40 mg/l

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester	LD50 rat > 2000 mg/kg (Rat - OECD 401)	LD50 > 2000 mg/kg (Rat - OECD 402)	
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine	LD50 9200 mg/kg (Rat) LD50 > 5000 mg/kg bw (Sprague-Dawley - OECD 420)		LC50 (4h) 1.37 mg/l (Rat - aerosol)

Sensitisation

Sensitisation Not classified based on available data.

Specific effects

Carcinogenicity Not classified based on available data.
Germ cell mutagenicity Not classified based on available data.

Reproductive toxicity Not classified based on available data.

Repeated dose toxicity**Target Organ Effects (STOT)**

Specific target organ systemic toxicity (single exposure) Not classified based on available data.

Specific target organ toxicity - repeated exposure Not classified based on available data.

Aspiration toxicity Not classified based on available data.

Other information

Other adverse effects Characteristic skin lesions (oil blisters) may develop following prolonged and repeated exposures (contact with contaminated clothing).

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Not classified based on available data.

Acute aquatic toxicity - Product Information

No information available.

Acute aquatic toxicity - Component Information

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Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester 125643-61-0	EC50 (72 h) > 3 mg/l Scenedesmus (OECD201)	EC50 (24 h) > 100 mg/l Daphnia magna (OECD 202)	LC50 (96 h) > 74 mg/l Brachydanio rerio (OECD 203)	
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine 110-25-8	EC50 (72h) 5.1 mg/l (Algae) EC50(72h) 6.3 mg.l (Desmodesmus subspicatus)	EC50(48h) 0.53 mg/l (Daphnia magna - OECD 202) EC50(48h) 0.43 mg/l (Daphnia magna - OECD 202)	LC50(96h) 3.2 - 4.6 mg/l (Fish) LC50(96h) 9.3 mg/l (Leuciscus idus)	

Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester 125643-61-0		NOEC (21d) <= 0.01 mg/l Daphnia magna semi static (OECD 211)		
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine 110-25-8	NOEC(72h) 0.91 mg.l (Desmodesmus subspicatus)	NOEC(48h) 0.38 mg/l (Daphnia magna - OECD 202)	NOEC(96h) 6.81 mg/l (Leuciscus idus)	

Effects on terrestrial organisms

No information available.

12.2. Persistence and Degradability

General Information

No information available.

12.3. Bioaccumulative potential

Product Information No information available.

logPow No information available

Component Information

Chemical Name	log Pow
Benzenepropanoic acid, 3,5-bis (1,1-dimethyl-ethyl)-4-hydroxy-C7-C9 branched alkyl ester - 125643-61-0	9.2
(Z)-N-methyl-N-(1-oxo-9-octadecenyl)glycine - 110-25-8	6.83

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12.4. Mobility in soil

Soil	Given its physical and chemical characteristics, the product generally shows low soil mobility.
Air	Loss by evaporation is limited.
Water	The product is insoluble and floats on water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment	No information available.
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12.6. Other adverse effects

General Information	No information available.
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Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Should not be released into the environment. Do not empty into drains. Dispose of in accordance with the European Directives on waste and hazardous waste. Where possible recycling is preferred to disposal or incineration. After use, this oil must be sent to a licensed waste oil facility. Incorrect disposal of used oil poses a risk to the environment. Mixture with other waste types such as solvents, brake- and cooling liquids is forbidden.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: 13 01 12 .
Other information	Refer to section 8 for safety and protective measures for disposal personnel.

Section 14: TRANSPORT INFORMATION

<u>ADR/RID</u>	not regulated
<u>IMDG/IMO</u>	not regulated
<u>ICAO/IATA</u>	not regulated
<u>ADN</u>	not regulated

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Section 15: REGULATORY INFORMATION

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

European Union

Further information

No information available

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

15.3. National regulatory information

The United Kingdom

- Avoid exceeding occupational exposure limits (see section 8).

Ireland

- Avoid exceeding occupational exposure limits (see section 8).

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H318 - Causes serious eye damage

H332 - Harmful if inhaled

H400 - Very toxic to aquatic life

H413 - May cause long lasting harmful effects to aquatic life

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

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NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

dw = dry weight

fw = fresh water

mw = marine water

or = occasional release

Legend Section 8

TWA: Time Weight Average

STEL: Short Time Exposure Limit

+	Sensitiser	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

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Revision Note *** Indicates updated section.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.

End of Safety Data Sheet

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