SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** *2015-04-02* **Version** *1*

1. IDENTIFICATION

Product identifier

Product name AZOLLA ZS 46

Other means of identification

Product Code(s) 082987

Number 161
Substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Identified uses Hydraulic oil.

Uses advised against Do not use for any purpose other than the one for which it is intended

Details of the supplier of the safety data sheet

Supplier Address

TOTAL Specialties USA Inc
1201 Louisiana Street, Suite 1800
Houston, TX 77002
Phone: +1 800 323 3198

Contact Point Technical/ HSEQ

E-mail Address USRMLIN-info@total.com

Emergency telephone number
Company Phone Number +1 (908) 862-9300
Emergency telephone CHEMTREC: +1 800 424 9300 (24h)

2. HAZARDS IDENTIFICATION

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Unknown Acute Toxicity
No information available

Hazards not otherwise classified (HNOC)
• None known

Other information
• Contaminated surfaces will be extremely slippery
• Should not be released into the environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	50-55

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

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Eye contact Rinse immediately with plenty of water and seek medical advice.

Skin contact Remove contaminated clothing and shoes. Wash off with soap and water. Wash contaminated clothing before reuse.

Inhalation Move to fresh air. Inhalation of high concentrations of vapor or aerosols may cause irritation of the upper respiratory tract.

Ingestion If swallowed, do not induce vomiting - seek medical advice.

Most important symptoms/effects, acute and delayed

Skin contact Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Eye contact Not classified. May cause eye irritation with susceptible persons.

Inhalation Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Ingestion Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Symptoms Redness. Itching.

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

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Foam. Carbon dioxide (CO_2). ABC powder. Water spray.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

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.

Explosion Data

Sensitivity to Mechanical Impact none.
Sensitivity to Static Discharge none.

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate non-essential personnel.

6. ACCIDENTAL RELEASE MEASURES

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.

Other information See Section 12 for additional information.

Environmental precautions

General Information Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Methods for cleaning up Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Advice on safe handling When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.

Hygiene measures Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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.

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. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on the new container. Do not remove the hazard labels of the containers (even if they are empty). Protect from frost, heat and sunlight. Protect from moisture. Design equipment to avoid accidental product leakage (for example due to seal failure) onto hot casings or electrical contacts.

Materials to Avoid Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits Mineral oil mist:
USA: OSHA (PEL) TWA 5 mg/m^3, NIOSH (REL) TWA 5 mg/m^3, STEL 10 mg/m^3, ACGIH (TLV) TWA 5 mg/m^3 (highly refined).

Exposure controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

General Information If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Eye/Face Protection If splashes are likely to occur, wear:. Safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Protective shoes or boots.

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Hand Protection

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.

Respiratory protection

None required under normal usage. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Color		amber	
Physical State @20°C		liquid	
Odor		Petroleum distillates	
Odor Threshold		No information available	
Property	**Values**	**Remarks**	**Method**
pH		Not applicable	
Melting point/range		No information available	
Boiling point/boiling range		Not applicable	
Flash point	**210 °C**		Cleveland Open Cup (COC) ASTM D 92
	410 °F		Cleveland Open Cup (COC). ASTM D 92.
Evaporation rate		No information available	
Flammability Limits in Air		No information available	
upper	-	No information available	
Lower	-	No information available	
Vapor Pressure		No information available	
Vapor density		No information available	
Relative density	0.872	@ 15 °C	ASTM D 1298
Density	872 kg/m^3	@ 15 °C	ASTM D 1298
Water solubility		Not applicable	
Solubility in other solvents		No information available	
logPow		No information available	
Autoignition temperature		Not applicable	

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Decomposition temperature		No information available	
Viscosity, kinematic	46 mm2/s	@ 40 °C	ASTM D 445
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable		
Possibility of hazardous reactions	Not applicable		
Other information			
Specific Gravity	0.872	@ 15 °C	ASTM D 1298
Freezing Point		No information available	
Pour point	-29 °C		ASTM D 97

10. STABILITY AND REACTIVITY

Reactivity

Chemical stability Stable under recommended storage conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to Avoid Heat, flames and sparks. Take precautionary measures against static discharges. Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. Strong oxidizing agents.

Incompatible Materials Strong oxidizing agents.

Hazardous Decomposition Products Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product Information

Skin contact Not classified. High pressure injection of the products under the skin may have very serious consequences even though no symptom or injury may be apparent.

Eye contact Not classified. May cause eye irritation with susceptible persons.

Inhalation Not classified. Inhalation of vapors in high concentration may cause irritation of respiratory system.

Ingestion Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Numerical measures of toxicity - Product Information

ATEmix (oral)	5057 mg/kg
ATEmix (dermal)	5057 mg/kg

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Inhalation
ATEmix (inhalation-dust/mist) 5.2 mg/l
ATEmix (inhalation-vapor) 30.3 mg/l

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	LD50 > 5000 mg/kg bw (rat - OECD 420)	LD50 > 5000 mg/kg bw (rabbit - OECD 402)	LC50 (4h) > 5 mg/l (aerosol) (rat - OECD 403)

Information on toxicological effects

Symptoms Redness. Itching.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization Not classified as a sensitizer.
Carcinogenicity This product is not classified carcinogenic.

Chemical Name	ACGIH	IARC	NTP	OSHA
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	-	-		-

Mutagenicity Contains no ingredient listed as a mutagen.
Reproductive toxicity This product does not present any known or suspected reproductive hazards.
Other adverse effects Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).
Aspiration Hazard Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Acute aquatic toxicity - Product Information

No experimental data available

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates	Toxicity to microorganisms
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	EL50 (48h) > 100 mg/l (Pseudokirchnerella subcapitata - OECD 201)	LL50 (96h) > 100 mg/l (Oncorhynchus mykiss - OECD 203)	EL50 (48h) > 10000 mg/l (Daphnia magna - OECD 202)	

Chronic aquatic toxicity - Product Information

No experimental data available

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

Chronic aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7		NOEL (21d) 10 mg/l (Daphnia magna - QSAR Petrotox)	NOEL (14/28d) > 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	

Effects on terrestrial organisms No experimental data available .

Persistence and degradability

General Information No information available.

Bioaccumulative potential

Product Information No information available.

logPow No information available

Component Information .

Chemical Name	log Pow
Distillates (petroleum), hydrotreated heavy paraffinic 64742-54-7	-

Mobility

Soil No information available

Other adverse effects

General Information No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment

Waste Disposal Methods Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

14. TRANSPORT INFORMATION

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO/IATA	Not regulated
IMDG/IMO	Not regulated
ADR/RID	Not regulated
ADN	Not regulated

15. REGULATORY INFORMATION

International Inventories All the substances contained in this product are listed or exempted from listing in the following inventories:
U.S.A. (TSCA)

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	no
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

SDS # : 082987

AZOLLA ZS 46

Date of the previous version: not applicable **Revision Date:** 2015-04-02 **Version** 1

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Paraffin oils (petroleum),catalytic dewaxed heavy 64742-70-7	X				
Distillates (petroleum), hydrotreated light paraffinic 64742-55-8	X				

16. OTHER INFORMATION

NFPA	**Health Hazard** 0	**Flammability** 1	**Instability** 0	**Physical and chemical hazards** -
HMIS	**Health Hazard** 0	**Flammability** 1	**Physical Hazard** 0	**Personal protection** X

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)
Hazards are split into categories each with a 0 to 4 rating, 0 meaning no hazard and 4 meaning high hazard

Revision Date: 2015-04-02
Revision Note No information available
Abbreviations, acronyms

Legend Section 8
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH - National Institute for Occupational Safety and Health
TLV - Threshold Limit Values
PEL - Permissible Exposure Limits
IDHL - Immediately Dangerous to Life or Health concentrations
TWA - Time Weight Average
STEL - Short Term Exposure Limits
S* - Skin notation
TSCA - Toxic Substance Control Act

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release 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 or in any process, unless specified in the text.

End of the safety data sheet