SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Viscosity standard specimen 1 BW

Version 5.0

Revision date 24.02.2021

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: Viscosity standard specimen 1 BW

Substance name: Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

EC-No.: 919-446-0
CAS-No.: 64742-82-1

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

Use of the Substance/Mixture: calibration of viscosity measuring instruments according to DIN EN ISO 9001

Recommended restrictions on use: exclusively for calibration purposes

1.3. Details of the supplier of the safety data sheet

Company: ZMK & ANALYTIK GmbH
PD-ChemiePark Bitterfeld-Wolfen
Areal A, Filmstraße 7
DE 06766 Bitterfeld-Wolfen
Telephone : +49 (0)3494-6973-0
Telefax : +49 (0)3494-6973-34
E-mail address: info@zmk-wolfen.de

1.4. Emergency telephone number

Emergency telephone number: +49 (0)3494-6973-0 (Available: from 8 to 16 Uhr / Mo to Fr)

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Regulation (EC) No. 1272/2008			
Hazard class	**Hazard category**	**Target Organs**	**Hazard statement**
Flammable liquids	Category 3	---	H226
Aspiration hazard	Category 1	---	H304
Specific target organ toxicity – single exposure; Narcotic effects	Category 3	---	H336
Causes damage to organs through prolonged or repeated exposure	Category 1	---	H372
Chronic hazards to the aquatic environment	Category 2	---	H411
Supplemental Hazard Information	---	---	EUH066

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

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

Hazard symbols:

Signal words:	Gefahr	
Hazard Statements:	H226	Flammable liquid and vapour
	H304	May be fatal if swallowed and enters airways
	H336	May cause drowsiness or dizziness
	H372	Causes damage to organs through prolonged or repeated exposure
	EUH066	Repeated exposure may cause skin dryness or cracking.
	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements		
Prevention	P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
	P243	Take precautionary measures against static discharge.

	P261	Avoid breathing dust/fumes/gas/mist/vapours/spray
	P273	Avoid release to the environment.
Response:	P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	P331	Do NOT induce vomiting.
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
Storage:	P405	Dispose of contents/ container to an approved waste disposal plant.
Disposal:	P501	Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Hazardous components which must be listed on the label:
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

2.3. Other Hazards

The substance does not contain all test criteria for persistence, bioaccumulation and toxicity and is therefore not classified as a PBT or vPvB substance.
Can form flammable / explosive vapor / air mixtures.
This material is a static accumulator.
The material can become electrostatically charged even with proper earthing and equipotential bonding measures.
If there is a certain charge, electrostatic discharge and ignition of flammable air-steam mixtures can result.

3. Composition/information on ingredients

3.1. Substance

Chemical nature: Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)

Hazardous components	Amount [%]
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	100 %
EC-No.: 919-446-0	

4. First aid measures

4.1. Description of first aid measures

Inhalation:	Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment
Protection of first-aiders:	First-aiders must wear suitable personal protective equipment that is appropriate for the incident, injury, and the environment.
Skin Contact:	Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
Eye Contact:	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.
Ingestion:	If swallowed, do not induce vomiting: transport to nearest medical facility for additional treatment. If vomiting occursspontaneously, keep head below hips to prevent aspiration. If any of the following delayed signs and symptoms appear within the next 6 hours, transport to the nearest medical facility: fever greater than 101° F (38.3° C), shortness of breath, chest congestion or continued coughing or wheezing.

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

Symptoms:	If the material gets into the lungs, the following signs and symptoms may appear: cough, wheezing, wheezing, shortness of breath, pulmonary hypertension, shortness of breath and / or fever.

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

Treatment:	Risk of chemical pneumonia. Note: gastric lavage with protected airways, administration of activated carbon. Obtain information from a doctor or poison control center.

5. Firefighting measures

5.1. Extinguishing media

Extinguishing Media:	Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Do not discharge extinguishing waters into the aquatic environment.
Unsuitable Extinguishing Media:	Do not use water in a jet.

5.2. Special hazards arising from substance or mixture

Specific hazard during firefighting:	Only allow emergency rescue services in the fire area. Hazardous combustion products can result in: Complex mixture of solid and liquid particles and gases, including carbon monoxide. Unidentified organic and inorganic compounds. Flammable vapors can be present even if the temperature is below the flash point. Vapors are heavier than air and spread on the floor. Inflammation possible over a greater distance. Floats and can ignite on the surface of the water.

5.3. Advice for fire-fighters

Special protective equipment for firefighters :	People must wear appropriate personal protective equipment, including chemical protective gloves. If there is a risk of extensive contact due to spilled material, a chemical protective suit must be worn. Self-contained breathing apparatus must be worn near fire in confined spaces. Choose fire protection clothing that meets the relevant standards (e.g. in Europe: EN 469)
Further information:	Keep adjacent containers cool by spraying with water.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions:	Observe relevant national and international regulations. Inform authorities if exposure to the public or the environment occurs or is likely. Local authorities should be informed if large amounts of spilled material cannot be contained. 6.1.1. For personnel not trained for emergencies Avoid contact with skin, eyes and clothing. Seal off dangerous areas and prevent access for unneeded and unprotected personnel. 6.1.2. For emergency personnel Avoid contact with skin, eyes and clothing. Seal off dangerous areas and prevent access for unneeded and unprotected personnel. Do not inhale smoke or vapors. Do not operate any electrical devices.

6.2. Environmental precautions

Environmental precautions:	Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up:	For small liquid spills (< 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

6.4. Reference to other sections

For information on the selection of personal protective equipment, see section 8 of this safety data sheet.
For information on disposal see section 13 of this safety data sheet.

7. Handling and storage

General Precautions:	Avoid breathing vapours or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. On guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material. Avoid prolonged contact with natural, butyl or nitrile rubbers.

7.1. Precautions for safe handling

Precautions for Safe Handling:	Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Handle and open container with care in a well-ventilated area. Ventilate workplace in such a way that the Occupational Exposure Limit (OEL) is not exceeded. Do not empty into drains.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities:	Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep away from heat. Keep away from direct sunlight. Risk of closed containers bursting if strongly heated.

7.3. Specific end uses

Specific use(s)	exclusively for calibration of viscosity measuring instruments according to DIN EN ISO 9001

8. Exposure controls/personal protection

If the American Conference of Governmental Industrial Hygienists (ACGIH) value is provided on this document, it is provided for information only.

8.1. Control Parameters

Occupational Exposure Limits

UK Workplace Exposure Limits
In the absence of occupational exposure standards for this product, it is recommended that the following are adopted

Material	Source	Type	ppm	mg/m³	Notation
RCP Mineral spirits 150 - 200	UK SIA	TWA (8h)	100 ppm	600 mg/m³	
Naphthalene	ACGIH	TWA	10 ppm		
	ACGIH	STEL	15 ppm		
	ACGIH	SKIN_DES			Can be absorbed through the skin.
Ethylbenzene	ACGIH	TWA	20 ppm		
	EH40 WEL	TWA	100 ppm	441 mg/m³	
	EH40 WEL	STEL	125 ppm	552 mg/m³	
	EH40 WEL	SKIN_DES			Can be absorbed through the skin.

Additional Information: Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Biological Exposure Index (BEI)

No biological limit allocated.

Derived No Effect Levels (DNEL/DMEL) Table				
Component	**Exposure Route**	**Exposure Type (long/short)**	**Application Area**	**Value**
Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%)	Inhalation	long term, systemic effects	Worker	330 mg/m3
	Dermal	long term, systemic effects	Worker	44mg/kg/d
	Inhalation	long term, systemic effects	Consumer	71 mg/m3
	Dermal	long term, systemic effects	Consumer	26mg/kg/d
	Oral	long term, systemic effects	Consumer	26mg/kg/d

Predicted No Effect Concentration (PNEC)

Substance is a hydrocarbon with a complex, unknown or variable composition. Conventional methods of deriving PNECs are not appropriate and it is not possible to identify a single representative PNEC for such substances.

8.2. Exposure controls

General Information: Do not ingest. If swallowed then seek immediate medical assistance. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes

Occupational Exposure Controls

Personal Protective Equipment: Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Eye Protection: Monogoggles (EN166) Chemical splash goggles (chemical monogoggles).

Hand Protection: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS:2161) made from the following materials may provide suitable chemical protection: Longer term protection: Nitrile rubber gloves Incidental contact/Splash protection: PVC or

	neoprene rubber gloves Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
Body protection:	Chemical resistant gloves/gauntlets, boots, and apron. Skin protection not ordinarily required beyond standard issue work clothes.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapours [boiling point >65 °C (149 °F)] meeting EN14387. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.
Monitoring Methods:	Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods, http://www.cdc.gov/niosh/nmam/nmammenu.html. Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/dts/sltc/methods/toc.html Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances, http://www.hsl.gov.uk/publications/mdhs.aspx. Institut für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung (IFA), http://www.dguv.de/ifa/de/index.jsp L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/securite/hygiene_securite_travail.html.

Environmental Exposure Controls

Environmental exposure control measures:	Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	colourless.
Odour:	Paraffinic..
Odour Threshold:	Data not available.
pH:	Not applicable
Melting / freezing point:	<-15°C
Initial boiling point and boiling range:	>160°C
Flash point:	42°C
Evaporation rate:	Data not available.
Upper flammability or	6,4% (V)

explosive limits:	
lower flammability or explosive limits:	0,67% (V)
Vapour pressure:	370 Pa (20 °C) 1800 Pa (50°C)
Vapour density:	49 (20°C) (Luft = 1).
Evaporation rate (nBuAc=1):	0,16 (ASTM D 3539, n-BuAc = 1) 80 (DIN 53170, di-ethyl ether = 1)
Density:	0,784 g/cm^3 (20 °C)
Water solubility:	ca. 20mg/l (20°C)
Partition coefficient: n-octanol/ water	3,7 - 6,7
Auto-ignition temperature:	235°C
Decomposition temperature:	Data not available.
Viscosity, kinematic:	1,2 mm^2/s (20 °C) 0,95 mm^2/s (40 °C)
Explosivity:	Data not available.
Oxidising properties:	Data not available.

10. Stability and reactivity

10.1. Reactivity

Advice: Stable under normal conditions of use.

10.2. Chemical stability

Advice: Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous reactions: Stable under normal conditions of use.

10.4. Conditions to avoid

Hazardous reactions: Avoid heat, sparks, open flames and other ignition sources.

10.5. Incompatible materials

Materials to avoid: Strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. Toxicological information

11.1. Information on toxicological effects

Basis for Assessment:	Information given is based on product testing, and/or similar products, and/or components.
Routes of Exposure:	Exposure may occur via inhalation, ingestion, skin absorption, skin or eye contact, and accidental ingestion.
Acute Oral Toxicity:	Low toxicity: LD50 >5000 mg/kg , Rat
Acute Dermal Toxicity:	Low toxicity
Acute Inhalation Toxicity:	Low toxicity: LC50 greater than near-saturated vapour concentration. / 4 hours, Rat
Skin Irritation:	Not irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis
Eye Irritation:	Not irritating to eye.
Respiratory Irritation:	Inhalation of vapours or mists may cause irritation to the respiratory system.
Sensitisation:	Not a skin sensitiser.
Aspiration hazard:	Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.
Mutagenicity:	Not mutagenic.
Carcinogenicity:	Not expected to be carcinogenic. Tumours produced in animals are not considered relevant to humans.
Reproductive and Developmental Toxicity:	Not expected to impair fertility. Not expected to be a developmental toxicant.
Specific target organ toxicity - single exposure:	May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure:	Kidney: caused kidney effects in male rats which are not considered relevant to humans

12. Ecological information

12.1. Toxicity

Acute Toxicity:	
Fish:	Toxic:: LL/EL/IL50 1-10 mg/l
Aquatic crustacea:	Toxic: LL/EL/IL50 1-10 mg/l
Algae/aquatic plants:	Toxic: LL/EL/IL50 1-10 mg/l
Microorganisms:	Practically non toxic: LL/EL/IL50 > 100 mg/l
Chronic Toxicity:	
Fish:	NOEC/NOEL expected to be > 0.1 - <= 1.0 mg/l (based on modeled data)
Aquatic crustacea:	NOEC/NOEL > 0.1 - <=1.0 mg/l (based on test data)

12.2. Persistence and degradability

Readily biodegradable
Oxidises rapidly by photo-chemical reactions in air.

12.3. Bioaccumulative potential

Has the potential to bioaccumulate.

12.4. Mobility in soil

Floats on water. Adsorbs to soil and has low mobility

12.5. Results of PBT and vPvB assessment

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

13. Disposal considerations

13.1. Waste treatment methods

Material Disposal:	Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.
Container Disposal:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Refer to Section 7 before handling the product or containers. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
Local Legislation:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

14. Transport information

ADR

14.1 UN number:	1300
14.2 UN proper shipping name	Turpentine substitute
14.3 Transport hazard class(es)	3
14.4 Packing group:	III
Classification code:	F1
Hazard identification no.	30
Danger label (primary risk)	3
14.5 Environmental hazards:	Yes

RID

14.1 UN number:	1300
14.2 UN proper shipping name	Turpentine substitute
14.3 Transport hazard class(es)	3
14.4 Packing group:	III
Classification code:	F1

Hazard identification no.	30
Danger label (primary risk)	3
14.5 Environmental hazards:	Yes

Seetransport (IMDG-Code)

14.1 UN- number:	1300
14.2 UN proper shipping name	TURPENTINE SUBSTITUTE
14.3 Transport hazard class(es)	3
14.4 Packing group:	III
14.5 Environmental hazards:	Yes

Lufttransport (IATA)

14.1 UN- number:	1300
14.2 UN proper shipping name	Turpentine substitute
14.3 Transport hazard class(es)	3
14.4 Packing group:	III

Additional Information: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

15. Regulatory information

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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

WGK (DE):	WGK 2, ; water endangering
Major Accident Hazard Legislation:	Not applicable
Other regulations:	94/69/EC (21st ATP). The benzene content of this product is less than 0.1%. Nota P applies. Classification and labelling as carcinogen (R45) is not required.

15.2. Chemical Safety Assessment

A Chemical Safety Assessment was performed for all substances of this product..

16. Other information

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

H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further information

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.