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

1.1. Product identifier

ROWE Miratec HSA ECO 3

UFI: R8DU-GKW3-J002-4DXS

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

Use of the substance/mixture

Heat transfer fluids

1.3. Details of the supplier of the safety data sheet

Company name:	ROWE Mineralölwerk GmbH	
Street:	Langgewann 101	
Place:	D-67547 Worms	
Telephone:	+49 (0)6241 5906-0	Telefax: +49 (0)6241 5906-999
E-mail:	info@rowe-oil.com	
Contact person:	Product Compliance	
E-mail:	sdb@rowe-oil.com	
Internet:	www.rowe-oil.com	

1.4. Emergency telephone number:

Ireland: Public (8am-10pm) +353 180 921 66, Healthcare Professionals +353 1809 2566 other Countries: Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Eye Irrit. 2; H319

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Warning

Pictograms:



Hazard statements

H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container to of the disposal according to local regulations.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
3302-10-1	3,5,5-trimethylhexanoic acid			1 - < 3 %
	221-975-0		01-2119517580-45	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302 H315 H318			
29385-43-1	methyl-1H-benzene triazole			1 - < 3 %
	249-596-6		01-2119979081-35	
	Repr. 2, Acute Tox. 4, Aquatic Chronic 2; H361d H302 H411			
111-42-2	2,2'-iminodiethanol; diethanolamine			0,1 - < 0,3 %
	203-868-0	603-071-00-1	01-2119488930-28	
	Repr. 2, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT RE 2; H361 H302 H315 H318 H373			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
3302-10-1	221-975-0	3,5,5-trimethylhexanoic acid	1 - < 3 %
	oral: LD50 = 1160 mg/kg		
29385-43-1	249-596-6	methyl-1H-benzene triazole	1 - < 3 %
	oral: LD50 = 720 mg/kg		
111-42-2	203-868-0	2,2'-iminodiethanol; diethanolamine	0,1 - < 0,3 %
	dermal: LD50 = 8328 mg/kg; oral: LD50 = 676 mg/kg		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

When in doubt or if symptoms are observed, get medical advice.

After inhalation

Provide fresh air. If experiencing respiratory symptoms: Call a doctor.

After contact with skin

Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

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

No information available.

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

Water spray jet. alcohol resistant foam. Carbon dioxide (CO2).
Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Full protection suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Provide adequate ventilation. Use personal protection equipment. Remove persons to safety.

For emergency responders

Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment.

6.3. Methods and material for containment and cleaning up

For containment

Prevent spread over a wide area (e.g. by containment or oil barriers). Cover drains. Stop leak if safe to do so.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Clean contaminated articles and floor according to the environmental legislation.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with eyes and skin. Use personal protection equipment.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Store in a dry place.

Hints on joint storage

Do not store together with: Oxidizing agent, Reducing agent, Strong acid, Strong alkali.

Further information on storage conditions

Keep away from heat.
maximum storage temperature: 80 °C

7.3. Specific end use(s)

Lubricating agent, Additive

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
111-42-2	2,2'-Iminodiethanol (Inhalable Fraction and Vapour)	0.2	1		TWA (8 h)	
111-42-2	Diethanolamine (Inhalable Fraction and Vapour)	0.2	1		TWA (8 h)	
102-71-6	Triethanolamine	-	5		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
102-71-6	2,2',2''-nitrilotriethanol			
Worker DNEL, long-term		inhalation	local	1 mg/m³
Worker DNEL, long-term		dermal	systemic	7,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	0,4 mg/m³
Consumer DNEL, long-term		dermal	systemic	2,66 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	3,3 mg/kg bw/day
3302-10-1	3,5,5-trimethylhexanoic acid			
Worker DNEL, long-term		inhalation	systemic	4,4 mg/m³
Worker DNEL, long-term		inhalation	local	10 mg/m³
Worker DNEL, acute		inhalation	local	10 mg/m³
Worker DNEL, long-term		dermal	systemic	1,25 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,1 mg/m³
Consumer DNEL, long-term		inhalation	local	5 mg/m³
Consumer DNEL, acute		inhalation	local	5 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,6 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,6 mg/kg bw/day
29385-43-1	methyl-1H-benzene triazole			
Worker DNEL, long-term		inhalation	systemic	21,2 mg/m³
Worker DNEL, long-term		dermal	systemic	0,3 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	0,01 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,01 mg/kg bw/day
111-42-2	2,2'-iminodiethanol; diethanolamine			
Worker DNEL, long-term		inhalation	systemic	0,75 mg/m³
Worker DNEL, long-term		inhalation	local	0,5 mg/m³
Worker DNEL, long-term		dermal	systemic	0,13 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,125 mg/m³
Consumer DNEL, long-term		inhalation	local	0,125 mg/m³
Consumer DNEL, long-term		dermal	systemic	0,07 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,06 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
102-71-6	2,2',2''-nitrilotriethanol	
Freshwater		0,32 mg/l
Freshwater (intermittent releases)		5,12 mg/l
Marine water		0,032 mg/l
Freshwater sediment		1,7 mg/kg
Marine sediment		0,17 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,151 mg/kg
3302-10-1	3,5,5-trimethylhexanoic acid	
Freshwater		0,068 mg/l
Freshwater (intermittent releases)		1,36 mg/l
Marine water		0,007 mg/l
Freshwater sediment		1,08 mg/kg
Marine sediment		0,108 mg/kg
Micro-organisms in sewage treatment plants (STP)		23 mg/l
Soil		0,176 mg/kg
29385-43-1	methyl-1H-benzene triazole	
Freshwater		0,008 mg/l
Freshwater (intermittent releases)		0,086 mg/l
Marine water		0,02 mg/l
Freshwater sediment		0,117 mg/kg
Marine sediment		0,292 mg/kg
Micro-organisms in sewage treatment plants (STP)		39,4 mg/l
Soil		0,0187 mg/kg
111-42-2	2,2'-iminodiethanol; diethanolamine	
Freshwater		0,021 mg/l
Freshwater (intermittent releases)		0,095 mg/l
Marine water		0,002 mg/l
Freshwater sediment		0,096 mg/kg
Marine sediment		0,009 mg/kg
Secondary poisoning		1,04 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		1,63 mg/kg

8.2. Exposure controls





Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye protection/face protection. (EN 166)

Hand protection

Tested protective gloves must be worn (EN ISO 374)

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Thermal hazards

No information available.

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:	light yellow
Odour:	No information available.
Odour threshold:	not determined

		Test method
Melting point/freezing point:	not determined	
Boiling point or initial boiling point and boiling range:	not determined	
Flammability:	not determined	
Lower explosion limits:	not determined	
Upper explosion limits:	not determined	
Flash point:	> 100 °C	
Auto-ignition temperature:	not determined	
Decomposition temperature:	not determined	
pH-Value (at 20 °C):	8,5 - 9,0	ASTM D 1287
Viscosity / kinematic:	<=14 mm²/s	
Water solubility:	easily soluble	

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:	not determined	
Vapour pressure:	not determined	
Density:	1,075 g/cm³	ASTM D 1122
Relative vapour density:	not determined	
Particle characteristics:	not applicable	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Oxidizing properties

The product is not: oxidising.

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

Oxidizing agent, Reducing agent, Strong acid, Strong alkali.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO2), Pyrolysis products, toxic.

SECTION 11: Toxicological information

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

Acute toxicity

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

ATEmix calculated

ATE (oral) > 5000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
3302-10-1	3,5,5-trimethylhexanoic acid				
	oral	LD50 1160 mg/kg	Rat	ECHA	OECD Guideline 401
29385-43-1	methyl-1H-benzene triazole				
	oral	LD50 720 mg/kg	Rat	ECHA	OECD Guideline 401
111-42-2	2,2'-iminodiethanol; diethanolamine				
	oral	LD50 676 mg/kg	Rat		
	dermal	LD50 8328 mg/kg	Rabbit		

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

Inhalation, oral, Skin contact, Eye contact.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
3302-10-1	3,5,5-trimethylhexanoic acid						
	Acute algae toxicity	ErC50	81 mg/l	72 h	Pseudokirchneriella subcapitata	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	68 mg/l	48 h	Daphnia magna	REACh Registration Dossier	EU Method C.2
	Acute bacteria toxicity	EC50 ( )	470 mg/l	3 h			OECD 209
29385-43-1	methyl-1H-benzene triazole						
	Acute fish toxicity	LC50	55 mg/l	96 h	Cyprinodon variegatus	ECHA	
	Acute algae toxicity	ErC50	75 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	15,8	48 h	Daphnia galeata	ECHA	OECD Guideline 202
	Crustacea toxicity	NOEC mg/l	<0,4	21 d	Daphnia magna	ECHA	
111-42-2	2,2'-iminodiethanol; diethanolamine						
	Acute algae toxicity	ErC50	75 mg/l	72 h	Scenedesmus sp.		
	Acute crustacea toxicity	EC50	110 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
3302-10-1	3,5,5-trimethylhexanoic acid	3,2
29385-43-1	methyl-1H-benzene triazole	1,079
111-42-2	2,2'-iminodiethanol; diethanolamine	-1,43

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

Additional information

Observe in addition any national regulations!

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 5,9.

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Skin Irrit. 2: Skin irritation, hazard category 2
Eye Dam. 1: Serious eye damage, hazard category 1
Eye Irrit. 2: Eye irritation, hazard category 2
Repr. 2: Reproductive toxicity, hazard category 2
STOT RE 2: Specific target organ toxicity - repeated exposure, hazard category 2
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard category: Chronic 2
Aquatic Chronic 3: Hazardous to the aquatic environment, long-term hazard category: Chronic 3
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
EC/EEC: European Community/European Economic Community
EU: European Union
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
M-factor: Multiplying factor
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
IMDG: International Maritime Code for Dangerous Goods
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
IATA: International Air Transport Association
DGR: Dangerous Goods Regulations
ICAO: International Civil Aviation Organization
TI: Technical Instructions
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

Key literature references and sources for data

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations). (v.1.2, 2013)

Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)