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

1.1 Product identifier

Trade name : F515-AE3 hebro®cut S

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

Use of the Substance/Mixture : Cutting fluid

1.3 Details of the supplier of the safety data sheet

Company : hebro chemie- ZN der Rockwood Specialties Group GmbH
Rostocker Str. 40
41199 Mönchengladbach
Contact person : Zentrale hebro chemie
Telephone : +49 (0) 2166 6009-0
Telefax : +49 (0) 2166 6009-99

Contact person product safety Abteilung Produktsicherheit
Telephone : +49(0)2166 6009-311
E-mail address : msds.de@hebro-chemie.de

1.4 Emergency telephone number

: Giftinformationszentrum Erfurt:
+49 (0) 361 730 730

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Eye irritation, Category 2	H319: Causes serious eye irritation.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.

H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P260 Do not breathe spray.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P251 Do not pierce or burn, even after use.
P211 Do not spray on an open flame or other ignition source.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

No data available
The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixtures of aliphatic hydrocarbons, alcohols and ether

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Poly(oxy-1,2-ethanediyl), .alpha.-(carboxymethyl)-.omega.-[(9Z)-9-octadecenyloxy]-	57635-48-0	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 2.5 - < 3
2-methylpentane-2,4-diol	107-41-5 203-489-0 01-2119539582-35	Eye Irrit. 2; H319 Skin Irrit. 2; H315	>= 1 - < 2.5
2,2'-oxydiethanol; diethyleneglycol	111-46-6 203-872-2 01-2119457857-21	Acute Tox. 4; H302 STOT RE 2; H373	>= 1 - < 2.5
Orthophosphoric acid	7664-38-2 231-633-2 01-2119485924-24	Met. Corr. 1; H290 Acute Tox. 4; H302 Skin Corr. 1B; H314 Note B	>= 1 - < 2.5
Substances with a workplace exposure limit :			
dimethyl ether	115-10-6	Flam. Gas 1; H220	>= 10 - < 25

	204-065-8 01-2119472128-37	Press. Gas Liquefied gas; H280 Note U (Table 3)	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Call a physician if symptoms occur.

If inhaled : Provide fresh air.
Keep patient warm and at rest.
If symptoms persist, call a physician.

In case of skin contact : Take off immediately all contaminated clothing.
Wash skin thoroughly with soap and water or use recognized skin cleanser.
Do NOT use solvents or thinners.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If eye irritation persists, consult a specialist.

If swallowed : Call a physician immediately.
Keep at rest.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

Risks : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Combustion may cause:
Carbon dioxide (CO2)
Carbon monoxide

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Use water spray to cool unopened containers. 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

Personal precautions	:	Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. Do not breathe vapour. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Inform the relevant authorities if it enters sewers, aquatic environment or soil.

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

See chapter
8
and
13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Do not breathe vapours or spray mist. When using do not eat, drink or smoke. For personal protection see section 8. Take precautionary measures against static discharges. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep away from children.
Advice on protection against fire and explosion	:	Vapours are heavier than air and may spread along floors.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards. Follow the water regulations.

Further information on storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep away from heat. Keep away from sources of ignition - No smoking.

Advice on common storage : Incompatible with oxidizing agents.

7.3 Specific end use(s)

Specific use(s) : Cutting fluid

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
dimethyl ether	115-10-6	TWA	1,000 ppm 1,920 mg/m3	2000/39/EC
Further information	Indicative			
		TWA	400 ppm 766 mg/m3	GB EH40
		STEL	500 ppm 958 mg/m3	GB EH40
2-methylpentane-2,4-diol	107-41-5	TWA	25 ppm 123 mg/m3	GB EH40
		STEL	25 ppm 123 mg/m3	GB EH40
2,2'-oxydiethanol; diethylene-glycol	111-46-6	TWA	23 ppm 101 mg/m3	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Orthophosphoric acid	7664-38-2	TWA	1 mg/m3	2000/39/EC
Further information	Indicative			
		STEL	2 mg/m3	2000/39/EC
Further information	Indicative			
		TWA	1 mg/m3	GB EH40
		STEL	2 mg/m3	GB EH40

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
2-methylpentane-2,4-diol	Workers	Inhalation	Long-term systemic effects	14 mg/m3
	Workers	Inhalation	Long-term local effects	49 mg/m3
2,2'-oxydiethanol; diethylene-glycol	Workers	Inhalation	Long-term local effects	60 mg/m3

Orthophosphoric acid	Workers	Inhalation	Long-term local effects	2.92 mg/m3
dimethyl ether	Workers	Inhalation	Long-term systemic effects	1894 mg/m3

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Do not breathe gas/fumes/vapour/spray.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : Handle in accordance with good industrial hygiene and safety practice.
Follow the skin protection plan.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : aerosol

Colour : light yellow

Odour : characteristic

Odour Threshold : No data available

pH : 7 - 8 (20 °C)
(undiluted)

Melting point/range : not determined

Boiling point/boiling range : -24 °C

Flash point : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit	:	Upper flammability limit 18.6 %(V)
Lower explosion limit	:	Lower flammability limit 2.6 %(V)
Vapour pressure	:	3,500 - 5,000 hPa (20 °C)
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.965 g/cm³ (20 °C)
Solubility(ies) Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	235 °C
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Explosive properties	:	Vapours may form explosive mixture with air.
Oxidizing properties	:	No data available

9.2 Other information

Other physico-chemical properties: This information is not available/not determined.

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

The product is chemically stable.

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 : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

In case of fire hazardous decomposition products may be produced such as:
Carbon dioxide (CO2)
Carbon monoxide
Nitrogen oxides (NOx)
Smoke

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute toxicity

Components:

2-methylpentane-2,4-diol:

Acute oral toxicity : LD50 (Rat): 3,700 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 8,560 mg/kg

2,2'-oxydiethanol; diethylene-glycol:

Acute oral toxicity : LD50: 1,120 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 13,300 mg/kg

Orthophosphoric acid:

Acute oral toxicity : LD50 (Rat): > 300 mg/kg
Method: OECD Test Guideline 423

Skin corrosion/irritation

Product:

Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.
May cause eye and skin irritation.

Serious eye damage/eye irritation

Product:

Remarks: The liquid splashed in the eyes may cause irritation and reversible damage.

Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

Germ cell mutagenicity

Product:

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

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

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

STOT - single exposure

Product:

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

STOT - repeated exposure

Product:

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

Aspiration toxicity

Product:

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

Further information

Product:

Remarks: Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology studies for the product are not available.

Components:

2-methylpentane-2,4-diol:

Toxicity to fish	:	LC50 (Pimephales promelas (Fathead minnow)): 8,690 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia (water flea)): 3,200 mg/l Exposure time: 48 h

2,2'-oxydiethanol; diethylene-glycol:

Toxicity to fish	:	LC50 (Pimephales promelas (Fathead minnow)): 75,200 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test Method: DIN 38412
Toxicity to algae	:	NOEC (Scenedesmus quadricauda (Green algae)): 2,700 mg/l Exposure time: 8 d Method: DIN 38412
Toxicity to microorganisms	:	EC20 (activated sludge): > 1.99 mg/l Exposure time: 0.5 h Method: ISO 8192

Orthophosphoric acid:

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

12.2 Persistence and degradability

Product:

Biodegradability	:	Remarks: No data available

12.3 Bioaccumulative potential

Product:

Bioaccumulation	:	Remarks: No data available

12.4 Mobility in soil

Product:

Mobility	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	No data available.

12.6 Other adverse effects

Product:

Additional ecological information	:	Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations. Do not let product enter drains. Do not dispose of with domestic refuse.
Contaminated packaging	:	Dispose of in accordance with local regulations.
Waste Code	:	16 05 04 : gases in pressure containers (including halons) containing hazardous substances

SECTION 14: Transport information

14.1 UN number

ADR	:	UN 1950
RID	:	UN 1950
IMDG	:	UN 1950
IATA	:	UN 1950

14.2 UN proper shipping name

ADR	:	AEROSOLS
RID	:	AEROSOLS
IMDG	:	AEROSOLS
IATA	:	Aerosols, flammable

14.3 Transport hazard class(es)

ADR	:	2
RID	:	2
IMDG	:	2.1
IATA	:	2.1

14.4 Packing group

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1
Tunnel restriction code	:	(D)

RID

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1

IMDG

Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U
Remarks	:	"IMDG-Code segregation group not applicable"., Protected from sources of heat., For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters., For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.

IATA (Cargo)

Packing instruction (cargo aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable gas

IATA (Passenger)

Packing instruction (passenger aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable gas

14.5 Environmental hazards

ADR

Environmentally hazardous : no

RID

Environmentally hazardous : no

IMDG

Marine pollutant : no

14.6 Special precautions for user

Refer to protective measures listed in sections 7 and 8.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.
Regional or national implementations of GHS may not implement all hazard classes and categories.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H220	:	Extremely flammable gas.
H280	:	Contains gas under pressure; may explode if heated.
H290	:	May be corrosive to metals.
H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H373	:	May cause damage to organs through prolonged or repeated exposure.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Gas	:	Flammable gases
Met. Corr.	:	Corrosive to metals
Press. Gas	:	Gases under pressure
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Sub-

stances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information : The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product.
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

GB / EN