

Revision date:  
16.01.2019**Multidraw VSV 77R****Article No.: 06510**

Page 1 of 9

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

06510 Multidraw VSV 77R

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

Water-soluble cooling lubricant

**1.3. Details of the supplier of the safety data sheet**

Company name:	Zeller+Gmelin GmbH & Co. KG	
Street:	Schlossstr. 20	
Place:	D-73054 Eislingen	
Telephone:	+49 (0) 7161 / 802-0	Telefax: +49 (0) 7161 / 802-290
e-mail:	info@zeller-gmelin.de	
Contact person:	Uwe Allmendinger	Telephone: +49 (0) 7161 / 802-297
e-mail:	produktsicherheit@zeller-gmelin.de	
Internet:	www.zeller-gmelin.de	
Responsible Department:	Produktsicherheit / Product Safety	

**1.4. Emergency telephone number:**Germany: +49 (0) 7161 / 802-400  
In England and Wales: NHS Direct: 0845 4647 or 111 In Scotland: NHS 24 - 08454 24 24 24 In Republic of Ireland: 01 809 2166**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1B

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes serious eye irritation.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

ethylenediamine

**Signal word:** Warning**Pictograms:****Hazard statements**

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P261	Avoid breathing mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

Revision date:  
16.01.2019

**Multidraw VSV 77R**
**Article No.: 06510**

Page 2 of 9

P337+P313 present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

Results of PBT and vPvB assessment: not applicable.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Chemical characterization**

Water-soluble cooling lubricant

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
107-15-3	ethylenediamine (neutralized)			2.5 - < 5 %
	203-468-6	612-006-00-6	01-2119480383-37	
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Resp. Sens. 1B, Skin Sens. 1B, Aquatic Chronic 3; H226 H311 H332 H302 H314 H334 H317 H412			
111-42-2	2,2'-iminodiethanol (neutralized)			2.5 - < 5 %
	203-868-0	603-071-00-1	01-2119488930-28	
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT RE 2, Aquatic Chronic 3; H302 H315 H318 H373 H412			
107-41-5	2-methylpentane-2,4-diol			1 - < 2.5 %
	203-489-0	603-053-00-3	01-2119539582-35	
	Skin Irrit. 2, Eye Irrit. 2; H315 H319			
61791-26-2	amines, tallow alkyl, ethoxylated			1 - < 2.5 %
	500-153-8			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H315 H318 H400 H410			

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

**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. If unconscious place in recovery position and seek medical advice. Remove contaminated, saturated clothing immediately.

**After inhalation**

Remove casualty to fresh air and keep warm and at rest.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

**After ingestion**

If swallowed, rinse mouth with water (only if the person is conscious). Let water be drunk in little sips (dilution effect). Call a physician immediately. Do NOT induce vomiting.

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

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

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

No information available.

**SECTION 5: Firefighting measures**

Revision date:  
16.01.2019**Multidraw VSV 77R****Article No.: 06510**

Page 3 of 9

**5.1. Extinguishing media****Suitable extinguishing media**alcohol resistant foam, Extinguishing powder, Carbon dioxide (CO<sub>2</sub>).**Unsuitable extinguishing media**

Full water jet.

**5.2. Special hazards arising from the substance or mixture**Hazardous decomposition products: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Do not inhale explosion and combustion gases.**5.3. Advice for firefighters**

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

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Do not allow to enter into soil/subsoil.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

See protective measures under point 7 and 8.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Clean contaminated articles and floor according to the environmental legislation.

**6.3. Methods and material for containment and cleaning up**

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

**6.4. Reference to other sections**

See protective measures under point 7 and 8.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Use personal protection equipment. Do not eat, drink or smoke when using this product. Provide fresh air. Handle and open container with care. Conditions to avoid: generation/formation of aerosols.

**Advice on protection against fire and explosion**

No special measures are necessary.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Protect against: Frost. Keep away from heat. Protect against direct sunlight. Keep container tightly closed in a cool, well-ventilated place.

**7.3. Specific end use(s)**

Observe technical data sheet.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
107-41-5	2-Methylpentane-2,4-diol	25	123		TWA (8 h)	WEL
		25	123		STEL (15 min)	WEL

Revision date:  
16.01.2019

**Multidraw VSV 77R**
**Article No.: 06510**

Page 4 of 9

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
107-41-5	2-methylpentane-2,4-diol			
Worker DNEL, long-term		inhalation	systemic	14 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	49 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	49 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	3,5 mg/m <sup>3</sup>
Consumer DNEL, long-term		oral	systemic	1 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	2 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	25 mg/m <sup>3</sup>
Consumer DNEL, long-term		dermal	systemic	1 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
107-41-5	2-methylpentane-2,4-diol	
Freshwater		0,429 mg/l
Marine water		0,0429 mg/l
Marine sediment		0,179 mg/kg
Soil		0,11 mg/kg

**8.2. Exposure controls**
**Appropriate engineering controls**

See chapter 7. No additional measures necessary.

**Protective and hygiene measures**

When using do not eat, drink, smoke, sniff.

**Eye/face protection**

Eye glasses with side protection.

**Hand protection**

Wear suitable gloves. Recommended glove articles: DIN EN 374. Suitable material: NBR (Nitrile rubber). Breakthrough time (maximum wearing time): > 480 min (Thickness of the glove material: 0.4 mm). Breakthrough times and swelling properties of the material must be taken into consideration. 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. Barrier creams can help protecting exposed skin areas. In no case should they be used after contact.

**Skin protection**

Protective clothing.

**Respiratory protection**

With correct and proper use, and under normal conditions, breathing protection is not required. When splashes or fine mist form, a permitted breathing apparatus suitable for these purposes must be used. Suitable respiratory protection apparatus: Filtering Half-face mask (DIN EN 149), e.g. FFA P / FFP3.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	yellow-brownish
Odour:	characteristic

**Test method**

Revision date:  
16.01.2019

**Multidraw VSV 77R**

**Article No.: 06510**

Page 5 of 9

pH-Value: 8,3 DIN 51369 (100 g/L)

**Changes in the physical state**

Melting point: not determined

Initial boiling point and boiling range: not determined

Pour point: not applicable

Flash point: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

Ignition temperature: not determined

Decomposition temperature: No information available.

Vapour pressure: not determined

Density (at 15 °C): 1,03 g/cm<sup>3</sup> DIN EN ISO 12185

Water solubility: miscible

Partition coefficient: not determined

Viscosity / dynamic: not determined

Viscosity / kinematic: not determined

Flow time: not determined

Vapour density: not determined

Evaporation rate: not determined

**9.2. Other information**

No information available.

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No information available.

**10.2. Chemical stability**

No information available.

**10.3. Possibility of hazardous reactions**

No hazardous reaction when handled and stored according to provisions.

**10.4. Conditions to avoid**

Heat.

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

No information available.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity**

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

Revision date:  
16.01.2019

**Multidraw VSV 77R**
**Article No.: 06510**

Page 6 of 9

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
107-15-3	ethylenediamine (neutralized)				
	oral	LD50 1200 mg/kg	Rat	GESTIS	
	dermal	ATE 300 mg/kg			
	inhalation vapour	ATE 11 mg/l			
	inhalation aerosol	ATE 1,5 mg/l			
111-42-2	2,2'-iminodiethanol (neutralized)				
	oral	LD50 676 mg/kg	Rat		
	dermal	LD50 8328 mg/kg	Rabbit		
107-41-5	2-methylpentane-2,4-diol				
	oral	LD50 3700 mg/kg	Rat		
	dermal	LD50 8000 mg/kg	Rabbit		
61791-26-2	amines, tallow alkyl, ethoxylated				
	oral	ATE 500 mg/kg			

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

May cause an allergic skin reaction. (ethylenediamine (neutralized))

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

**Practical experience**
**Other observations**

Keeping to the general worker's protection rules and the industrial hygienics, there is no risk in handling this product through the personnel.

**SECTION 12: Ecological information**
**12.1. Toxicity**

There are no data available on the mixture itself.

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

Revision date:  
16.01.2019

Multidraw VSV 77R

Article No.: 06510

Page 7 of 9

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
107-15-3	ethylenediamine (neutralized)	-2,04
111-42-2	2,2'-iminodiethanol (neutralized)	-1,43
107-41-5	2-methylpentane-2,4-diol	0,58

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

No data available

**12.6. Other adverse effects**

No data available

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste.

**Waste disposal number of waste from residues/unused products**

120110 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; synthetic machining oils; hazardous waste

**Contaminated packaging**

Non-contaminated packages may be recycled. Consult the appropriate local waste disposal expert about waste disposal.

**SECTION 14: Transport information****Land transport (ADR/RID)**

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

**Marine transport (IMDG)**

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

Marine pollutant: NO

**Air transport (ICAO-TI/IATA-DGR)**

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

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

No data available

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

No data available

Revision date:  
16.01.2019

**Multidraw VSV 77R**
**Article No.: 06510**

Page 8 of 9

**SECTION 15: Regulatory information**
**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**
**EU regulatory information**

Authorisations (REACH, annex XIV):

 Substances of very high concern, SVHC (REACH, article 59):  
ethylenediamine (neutralized)

2010/75/EU (VOC): 0 %

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

**National regulatory information**

Water contaminating class (D): 2 - clearly water contaminating

**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): 2,3,9,11,15.

**Abbreviations and acronyms**

ADR: Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulations concerning the International Carriage of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

CAS: Chemical Abstracts Service (a division of the American Chemical Society)

DNEL/DMEL: Derived No-Effect Level / Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

WEL (UK): Workplace Exposure Limits

TWA (EC): Time-Weighted Average

STEL (EC): Short Term Exposure Limit

ATE: Acute Toxicity Estimate

LD50: Lethal Dose, 50% (median lethal dose)

LC50: Lethal Concentration, 50% (median lethal concentration)

EC50: half maximal Effective Concentration

ErC50: EC50 in terms of reduction of growth rate

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

VwVwS: Verwaltungsvorschrift wassergefährdende Stoffe

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

Classification	Classification procedure
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1B; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

**Relevant H and EUH statements (number and full text)**

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

Revision date:  
16.01.2019

**Multidraw VSV 77R**

**Article No.: 06510**

Page 9 of 9

H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

### Further Information

Safety Data Sheet according to COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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