



Trade name: P 4 1 L

Version: 4 / GB

Date revised: 09.08.2017

Substance number: 351497024

Replaces Version: 3 / GB

Print date: 12.08.17

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

1.1. Product identifier

P 4 1 L

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

Use of the substance/preparation

Digital auxiliary

Identified Uses

SU3	Industrial uses: Uses of substances as such or in preparations at industrial sites
SU22	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
PROC1	Use in closed process, no likelihood of exposure
PROC2	Use in closed, continuous process with occasional controlled exposure
PROC3	Use in closed batch process (synthesis or formulation)
PROC4	Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
PROC8b	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC10	Roller application or brushing
PROC11	Non industrial spraying
PROC13	Treatment of articles by dipping and pouring
PROC19	Hand-mixing with intimate contact and only PPE available
ERC4	Industrial use of processing aids in processes and products, not becoming part of articles
ERC8a	Wide dispersive indoor use of processing aids in open systems
ERC8d	Wide dispersive outdoor use of processing aids in open systems

Uses advised against

SU21 Consumer uses: Private households (= general public = consumers)

1.3. Details of the supplier of the safety data sheet

Address

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Germany
Telephone no. +49-7141/691-0
Fax no. +49-7141/691-147
Information provided by / telephone Department product safety
E-mail address of person responsible PRSI@marabu.de
for this SDS

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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Classification (Regulation (EC) No. 1272/2008)

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Flam. Liq. 2	H225
Eye Irrit. 2	H319
STOT SE 3	H336

2.2. Label elements**Labelling according to regulation (EC) No 1272/2008****Hazard pictograms****Signal word**

Danger

Hazard statements

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor if you feel unwell.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains Propan-2-ol

2.3. Other hazards

No special hazards have to be mentioned.

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

Digital auxiliary based on solvents

Hazardous ingredients**Propan-2-ol**

CAS No.	67-63-0				
EINECS no.	200-661-7				
Registration no.	01-2119457558-25				
Concentration	>= 50	<	100	%	

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H225
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Further ingredients *****Acetic acid**

CAS No. 64-19-7

EINECS no. 200-580-7

Concentration < 1 % [3]

Classification (Regulation (EC) No. 1272/2008)

Skin Corr. 1A H314

Flam. Liq. 3 H226

Concentration limits (Regulation (EC) No. 1272/2008)

Skin Corr. 1A H314 >= 90

Eye Irrit. 2 H319 <= 10 < 25

Skin Irrit. 2 H315 <= 10 < 25

Skin Corr. 1B H314 <= 25 < 90

*
*
*

[3] Substance with occupational exposure limits

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed**Hints for the physician / treatment**

Treat symptomatically

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Recommended: alcohol resistant foam, CO₂, powders, water spray/mist, Not be used for safety reasons: water jet



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5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO₂); dense black smoke

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Exclude sources of ignition and ventilate the area. Avoid breathing vapours. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding Safe handling, see Section 7. Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks and open flame. No sparking tools should be used. Avoid skin and eye contact. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T2

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Electrical installations/working materials must comply with the local applied technological safety standards. Storage rooms in which filling operations take place must have a conducting floor. Store in accordance with national regulation



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Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Storage class according to TRGS 510

Storage class according to TRGS 510 3 Flammable liquid

Further information on storage conditions

Observe label precautions. Keep container dry in a cool, well-ventilated place. Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3. Specific end use(s)

Digital auxiliary

SECTION 8: Exposure controls/personal protection ***

8.1. Control parameters

Exposure limit values ***

Propan-2-ol

List	EH40			
Type	WEL			
Value	999	mg/m ³	400	ppm(V)
Short term exposure limit	1250	mg/m ³	500	ppm(V)
Status:	2011			

Acetic acid

List	EH40			
Type	OES/ILV			
Value	25	mg/m ³	10	ppm(V)
Short term exposure limit	37	mg/m ³	15	ppm(V)
Status:	2002			

Derived No/Minimal Effect Levels (DNEL/DMEL) ***

Propan-2-ol

Type of value	Derived No Effect Level (DNEL)		
Reference group	Worker		
Duration of exposure	Long term		
Route of exposure	inhalative		
Mode of action	Systemic effects		
Concentration	500		mg/m ³

Type of value	Derived No Effect Level (DNEL)		
Reference group	Worker		
Duration of exposure	Long term		
Route of exposure	dermal		
Mode of action	Systemic effects		
Concentration	888		mg/kg/d

Type of value	Derived No Effect Level (DNEL)		
Reference group	General Population		
Duration of exposure	Long term		
Route of exposure	inhalative		
Mode of action	Systemic effects		
Concentration	89		mg/m ³

Type of value	Derived No Effect Level (DNEL)		
Reference group	General Population		



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Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	319	mg/kg/d
Type of value	Derived No Effect Level (DNEL)	
Reference group	General Population	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	26	mg/kg/d

Predicted No Effect Concentration (PNEC) ***

Propan-2-ol

Type of value	PNEC	
Type	Freshwater	
Concentration	140,9	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	140,9	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	2251	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	552	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	552	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	28	mg/kg

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Respiratory protection

If workers are exposed to concentrations above the exposure limit they must use appropriate, certified respirators. Full mask, filter A

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

For prolonged or repeated handling nitrile rubber gloves with textile undergloves are required.

Material thickness > 0,5 mm

Breakthrough time < 30 min

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.



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Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance. Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear designed to protect against splash of liquids.

Body protection

Cotton or cotton/synthetic overalls or coveralls are normally suitable.

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

Form	Liquid		
Colour	colourless, clear		
Odour	solvent-like		
Odour threshold			
Remarks	No data available		
pH value			
Remarks	Not applicable		
Melting point			
Remarks	not determined		
Freezing point			
Remarks	not determined		
Initial boiling point and boiling range			
Value	appr. 82		°C
Pressure	1.013	hPa	
Source	Literature value		
Flash point			
Value	12		°C
Source	Literature value		
Evaporation rate (ether = 1) :			
Remarks	not determined		
Flammability (solid, gas)			
Not applicable			
Upper/lower flammability or explosive limits			
Lower explosion limit	appr. 2		%(V)
Upper explosion limit	appr. 12		%(V)
Source	Literature value		
Vapour pressure			
Value	43		hPa
Temperature	20	°C	
Method	Value taken from the literature		
Vapour density			
Remarks	not determined		
Density			
Value	0,8		g/cm ³
Temperature	20	°C	
Method	DIN EN ISO 2811		



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Solubility in water

Remarks partially miscible

Partition coefficient: n-octanol/water

Remarks Not applicable

Ignition temperature

Value appr. 425 °C

Source Literature value

Efflux time

Value < 12 s

Temperature 20 °C

Method DIN 53211 4 mm

Explosive properties

evaluation no

Oxidising properties

evaluation None known

9.2. Other information**Other information**

The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

Stable under recommended storage and handling conditions (see section 7).

10.3. Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid

When exposed to high temperatures may produce hazardous decomposition products.

10.5. Incompatible materials

No hazardous reactions when stored and handled according to prescribed instructions.

10.6. Hazardous decomposition products

See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture).

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute oral toxicity**

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

Acute dermal toxicity

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

Acute inhalational toxicity

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

Skin corrosion/irritation

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

Serious eye damage/irritation



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evaluation irritant
Remarks The classification criteria are met.

Sensitization

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

Mutagenicity

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

Reproductive toxicity

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

Carcinogenicity

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

Specific Target Organ Toxicity (STOT)**Single exposure**

Remarks The classification criteria are met.
evaluation May cause drowsiness or dizziness.

Repeated exposure

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

Aspiration hazard

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

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. The liquid splashed in the eyes may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.

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

There are no data available on the mixture itself. Do not allow to enter drains or water courses. The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is not classified as dangerous for the environment.

12.2. Persistence and degradability**General information**

No data available

12.3. Bioaccumulative potential**General information**

There are no data available on the mixture itself.

Partition coefficient: n-octanol/water

Remarks Not applicable



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12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

12.6. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.

Wastes and emptied containers should be classified in accordance with relevant national regulation.

The European Waste Catalogue classification of this product, when disposed of as waste is

EWC waste code 08 03 12* waste ink containing dangerous substances

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.

Empty containers must be scrapped or reconditioned.

Not emptied containers are hazardous waste (waste code number 150110).

SECTION 14: Transport information

Land transport ADR/RID

14.1. UN number

UN 1263

14.2. UN proper shipping name

PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

Class 3

Label 3

14.4. Packing group

Packing group II

Special provision 640D

Limited Quantity 5 l

Transport category 3

14.5. Environmental hazards

-

Tunnel restriction code D/E

Marine transport IMDG/GGVSee

14.1. UN number

UN 1263

14.2. UN proper shipping name

PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

Class 3



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14.4. Packing group

Packing group II

14.5. Environmental hazards

no

Air transport ICAO/IATA**14.1. UN number**

UN 1263

14.2. UN proper shipping name

PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

Class 3

14.4. Packing group

Packing group II

14.5. Environmental hazards

-

Information for all modes of transport**14.6. Special precautions for user**

Transport within the user's premises:

Always transport in closed containers that are upright and secure.

Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

no

SECTION 15: Regulatory information *****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Major-accident categories acc. 96/82/EC**

Category	7B	Highly flammable liquids	5.000.000	kg	50.000.000	kg
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VOC ***

VOC (EU)	92,83	%	
VOC (EU)		742,6	g/l

Other information

The product does not contain substances of very high concern (SVHC).

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information**Hazard statements listed in Chapter 3**

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

CLP categories listed in Chapter 3

Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

Safety data sheet in accordance with regulation (EC) No 1907/2006



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The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.

It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.

As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.