

## Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878 Issue date: 3/16/2020 Revision date: 3/27/2024 Supersedes: 3/29/2023 Version: 1.3

SDS No: 12236-0017

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

#### 1.1. Product identifier

Product form : Mixture

Product name : Universalverdünner

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Solvent mixture

1.2.2. Uses advised against

Restrictions on use : For professional users only

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

Rey Chemie AG

Pilatusstrasse 31

5630 Muri

Switzerland

T +41 56 664 11 28

info@reychemie.ch

E-mail address of competent person responsible for the SDS: sds@gbk-ingelheim.de

#### 1.4. Emergency telephone number

Emergency number : NATIONAL: Tox Info Suisse: Tel. 145 (24 h)

#### **SECTION 2: Hazards identification**

## 2.1. Classification of the substance or mixture

## Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, Category 2

Skin corrosion/irritation, Category 2

H315

Serious eye damage/eye irritation, Category 2

H319

Carcinogenicity, Category 2

H351

Reproductive toxicity, Category 2

H361d

Specific target organ toxicity – Single exposure, Category 3,

Narcosis

Naicosis

Specific target organ toxicity - Single exposure, Category 3, H335

Respiratory tract irritation

Specific target organ toxicity – Repeated exposure, Category 2 H373 Aspiration hazard, Category 1 H304

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

### Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May cause drowsiness or dizziness. Causes skin irritation. May be fatal if swallowed and enters airways. Causes serious eye irritation. May cause respiratory irritation. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

#### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)







Signal word (CLP) : Danger

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Contains : Benzene, methyl-; Xylene; Butanone; propan-2-ol; isopropyl alcohol; isopropanol; 4-

methylpentan-2-one

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation. H336 - May cause drowsiness or dizziness. H351 - Suspected of causing cancer.

H361d - Suspected of damaging the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P243 - Take action to prevent static discharges.

P280 - Wear protective clothing, eye protection, face protection, protective gloves.

P312 - Call doctor, a POISON CENTER if you feel unwell.

P331 - Do NOT induce vomiting.

P405 - Store locked up.

Extra phrases : Restricted to professional users.

#### 2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## **SECTION 3: Composition/information on ingredients**

#### 3.1. Substances

Not applicable

## 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Benzene, methyl- Substance with a Community workplace exposure limit	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3 REACH-no: 01-2119471310-51	50 - 100	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336
Xylene	CAS-No.: 1330-20-7 EC-No.: 215-535-7 REACH-no: 01-2119488216-32	10 - 25	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 (ATE=1100 mg/kg bodyweight) Acute Tox. 4 (Inhalation:dust,mist), H332 (ATE=1.5 mg/l/4h) Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Butanone Substance with a Community workplace exposure limit	CAS-No.: 78-93-3 EC-No.: 201-159-0 EC Index-No.: 606-002-00-3 REACH-no: 01-2119457290-43	10 - 15	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
propan-2-ol; isopropyl alcohol; isopropanol	CAS-No.: 67-63-0 EC-No.: 200-661-7 EC Index-No.: 603-117-00-0 REACH-no: 01-2119457558-25	3 - 10	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
4-methylpentan-2-one Substance with a Community workplace exposure limit	CAS-No.: 108-10-1 EC-No.: 203-550-1 EC Index-No.: 606-004-00-4 REACH-no: 01-2119473980-30	≥3-<5	Flam. Liq. 2, H225 Carc. 2, H351 Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h) STOT SE 3, H336 Eye Irrit. 2, H319 EUH066

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

## **SECTION 4: First aid measures**

## 4.1 Description of first aid measure

4. 1. Description of first aid measures	
First-aid measures general	: Take off immediately all contaminated clothing. In the event of persistent symptoms receive medical treatment. Take affected person away from danger area. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician. In case of loss of consciousness, place the victim in the recovery position. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Wash off immediately with soap and plenty of water. Treat subsequently with skin cream. Get medical advice if skin irritation persists. Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Do not induce vomiting. Attention. Beware, danger of aspiration. Call a physician immediately. Rinse mouth. Drink plenty of water.

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

Symptoms/effects after inhalation	:	High concentration of vapours may induce: headache, dizziness, drowsiness, nausea and
		vomiting. May cause respiratory irritation.
Symptoms/effects after skin contact	:	Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing
		properties of the product. Irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eve contact	:	May cause eve irritation. Eve irritation.

: May cause drowsiness or dizziness.

ng. Symptoms/effects after ingestion

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May be fatal if swallowed and enters airways. Risk of lung oedema.

: Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure.

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

Treat symptomatically.

Chronic symptoms

Symptoms/effects

## **SECTION 5: Firefighting measures**

## 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : high volume water jet. Do not use a solid water stream as it may scatter and spread fire.

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## 5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.

Explosion hazard : In use, may form flammable/explosive vapour-air mixture.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2).

#### 5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Use self-contained

breathing apparatus and chemically protective clothing. Self-contained breathing apparatus.

Complete protective clothing.

Other information : Cool containers at risk with water spray jet. Collect contaminated firefighting water

separately, must not be discharged into the drains.

#### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : No flames, no sparks. Eliminate all sources of ignition. Avoid contact with eyes, skin or

mucous membrane. Evacuate the danger area.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No flames, no sparks. Eliminate all sources of ignition. Evacuate

unnecessary personnel. Wear personal protective equipment. No open flames, no sparks,

and no smoking. Do not breathe vapours. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

## 6.2. Environmental precautions

Avoid release to the environment. Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Notify authorities if product enters sewers or public waters.

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

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Absorb with liquid-binding material (e.g. sand,

diatomaceous earth, acid- or universal binding agents). Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Notify authorities if product enters

sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

## 6.4. Reference to other sections

Refer to protective measures listed in sections 7 and 8. For further information refer to section 13.

## **SECTION 7: Handling and storage**

## 7.1. Precautions for safe handling

Additional hazards when processed Precautions for safe handling

- : Avoid contact with eyes, skin or mucous membrane. Do not breathe vapour/aerosol.
- Handle and open container with care. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid formation of aerosols. Take precautionary measures against static discharge. Explosion free apparatus have to be used. Vapours are heavier than air and may spread along floors. Pregnant women may avoid to breathe or to have skin contact with product. Ground/bond container and receiving equipment. Use only non-sparking tools. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapours. Avoid contact with skin and eyes.

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Hygiene measures

: Do not inhale vapour. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Treat subsequently with skin cream. Avoid contact with skin, eyes and clothing. Take off immediately all contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Keep container tightly closed in a dry, cool and well-ventilated place. Pay attention to

explosion protection guidelines. Store in a well-ventilated place. Keep cool. Keep container

tightly closed. Store locked up.

Incompatible products Strong oxidizing agent. Strong acids. Strong bases.

Heat and ignition sources Keep away from heat and direct sunlight.

Information on mixed storage Keep away from food, drink and animal feeding stuffs.

: Keep out of frost. Storage area

**Switzerland** 

Storage class (LK) : LK 3 - Flammable liquids

### 7.3. Specific end use(s)

See Section 1.

## **SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

Benzene, methyl- (108-88-3)		
Switzerland - Occupational Exposure Limits		
Local name	Toluène / Toluol	
MAK (OEL TWA)	190 mg/m³	
	50 ppm	
KZGW (OEL STEL)	760 mg/m³	
	200 ppm	
Notation	R, R2, SS <sub>C</sub> , O <sup>B</sup> , B / H, R2, SS <sub>C</sub> , O <sup>L</sup> , B	
Remark	INRS, HSE, NIOSH, DFG	
OEL chemical category	Category 2 developmental toxin, Category 2 reproductive toxin, Skin notation	
Regulatory reference	www.suva.ch, 01.01.2024	
Switzerland - BAT		
Local name	Toluène / Toluol	

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BAT         2 g/g creatinine (1.26 mm/mmol cr.) Parametre biologique: Acide hippurique: Substand desament: Unic., Moment du prélèvement. Fin de l'exposibilion, de la paridica de travail. Exposition de longue durée: après plusieurs périodes de travail. Remarques. Paramètre non spédifique. Iblience de l'erroitinement ) (1.02 mm/mmol cr.) Elboigschern paramètre in proposition, en la particular de plusieurs périodes de travail. Remarques. Paramètre non spédifique. Iblience de l'arvoitinement ) (1.02 mmol/mol mol cr.) Elboigschern paramètre international de l'arvoitinement proposition and mehre l'avoitinement proposition and mehre l'avoitinement provincement proposition and mehre l'avoitinement provincement provincement proposition and mehre l'avoitinement provincement pro	Benzene, methyl- (108-88-3)	
S32.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte	BAT	d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail. Exposition de longue durée: après plusieurs périodes de travail; Remarques: Paramètre non spécifique. Influence de l'environnement.) / (1.26 mmol/mmol cr.; Biologischer Parameter: Hippursäure; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende. Bei Langzeitexposition: nach mehreren vorangegangenen Schichten; Bemerkungen: Nicht spezifischer Parameter. Umwelteinflüsse.)  0.5 mg/l (4.62 µmol/l; Paramètre biologique: o-Crésol; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail. Exposition de longue durée: après plusieurs périodes de travail; Remarques: Interprétation quantitative difficile.) / (4.62 µmol/l; Biologischer Parameter: o-Kresol; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende. Bei Langzeitexposition: nach mehreren vorangegangenen Schichten; Bemerkungen: Quantitative Interpretation schwierig.)  600 µg/l (6.48 µmol/l; Paramètre biologique: Toluène; Substrat d'examen: Sang complet; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (6.48 µmol/l; Biologischer Parameter: Toluol; Untersuchungsmaterial: Vollblut; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.)  75 µg/l (Paramètre biologique: Toluène; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (Biologischer Parameter: Toluol; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw.
Switzerland - Occupational Exposure Limits           Local name         Xylène (tous les isomères) / Xylol (alle Isomere)           MAK (OEL TWA)         220 mg/m³           50 ppm         50 ppm           KZGW (OEL STEL)         440 mg/m³           100 ppm           Notation         R, B / H, B           Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)         Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SSc, B / H, SSc, B           Remark         INRS, NIOSH, OSHA	Regulatory reference	I to the second of the second
Local name         Xylène (tous les isomères) / Xylol (alle Isomere)           MAK (OEL TWA)         220 mg/m³           50 ppm         50 ppm           KZGW (OEL STEL)         440 mg/m³           100 ppm         100 ppm           Notation         R, B / H, B           Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)         Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SSc, B / H, SSc, B           Remark         INRS, NIOSH, OSHA	Xylene (1330-20-7)	
MAK (OEL TWA)         220 mg/m³           50 ppm         50 ppm           KZGW (OEL STEL)         440 mg/m³           100 ppm         100 ppm           Notation         R, B / H, B           Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)         Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B           Remark         INRS, NIOSH, OSHA	Switzerland - Occupational Exposure Limits	
KZGW (OEL STEL)	Local name	Xylène (tous les isomères) / Xylol (alle Isomere)
KZGW (OEL STEL)         440 mg/m³           100 ppm         100 ppm           Notation         R, B / H, B           Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)         Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SSc, B / H, SSc, B           Remark         INRS, NIOSH, OSHA	MAK (OEL TWA)	220 mg/m³
100 ppm   100		50 ppm
Notation         R, B / H, B           Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)           Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm         590 mg/m³           Notation         R, SSc, B / H, SSc, B           Remark         INRS, NIOSH, OSHA	KZGW (OEL STEL)	440 mg/m³
Remark         INRS, NIOSH           Regulatory reference         www.suva.ch, 01.01.2024           Butanone (78-93-3)           Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm         590 mg/m³           200 ppm         Notation           R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B           Remark         INRS, NIOSH, OSHA		100 ppm
Regulatory reference   www.suva.ch, 01.01.2024	Notation	R, B / H, B
Butanone (78-93-3)           Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm         590 mg/m³           VOEL STEL)         590 mg/m³           Notation         R, SSc, B / H, SSc, B           Remark         INRS, NIOSH, OSHA	Remark	INRS, NIOSH
Switzerland - Occupational Exposure Limits           Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SS <sub>C</sub> , B / H, SS <sub>C</sub> , B           Remark         INRS, NIOSH, OSHA	Regulatory reference	www.suva.ch, 01.01.2024
Local name         2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]           MAK (OEL TWA)         590 mg/m³           200 ppm           KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B           Remark         INRS, NIOSH, OSHA	Butanone (78-93-3)	
MAK (OEL TWA)       590 mg/m³         200 ppm       590 mg/m³         KZGW (OEL STEL)       590 mg/m³         200 ppm         Notation       R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B         Remark       INRS, NIOSH, OSHA	Switzerland - Occupational Exposure Limits	
200 ppm     590 mg/m³     200 ppm	Local name	2-Butanone / 2-Butanon [Ethylmethylketon, Methylethylketon (MEK)]
KZGW (OEL STEL)         590 mg/m³           200 ppm           Notation         R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B           Remark         INRS, NIOSH, OSHA	MAK (OEL TWA)	590 mg/m³
200 ppm  Notation R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B  Remark INRS, NIOSH, OSHA		200 ppm
Notation R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B  Remark INRS, NIOSH, OSHA	KZGW (OEL STEL)	590 mg/m³
Remark INRS, NIOSH, OSHA		200 ppm
	Notation	R, SS <sub>c</sub> , B / H, SS <sub>c</sub> , B
Regulatory reference www.suva.ch, 01.01.2024	Remark	INRS, NIOSH, OSHA
	Regulatory reference	www.suva.ch, 01.01.2024

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Butanone (78-93-3)		
Switzerland - BAT		
Local name	2-Butanone / 2-Butanon	
BAT	2 mg/l (27.7 µmol/l; Paramètre biologique: 2-Butanone; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (27.7 µmol/l; Biologischer Parameter: 2-Butanon (MEK); Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.)	
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte	
propan-2-ol; isopropyl alcohol; isopropanol	(67-63-0)	
Switzerland - Occupational Exposure Limits		
Local name	2-Propanol / 2-Propanol [iso-Propylalkohol, Isopropanol, Isopropylalkohol]	
MAK (OEL TWA)	500 mg/m³	
	200 ppm	
KZGW (OEL STEL)	1000 mg/m³	
	400 ppm	
Notation	SSc, B / SSc, B	
Remark	INRS, NIOSH	
Regulatory reference	www.suva.ch, 01.01.2024	
Switzerland - BAT		
Local name	2-Propanol / 2-Propanol	
BAT	25 mg/l (0.4 mmol/l; Paramètre biologique: Acétone; Substrat d'examen: Sang complet; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (0.4 mmol/l; Biologischer Parameter: Aceton; Untersuchungsmaterial: Vollblut; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.) 25 mg/l (0.4 mmol/l; Paramètre biologique: Acétone; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (0.4 mmol/l; Biologischer Parameter: Aceton; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.)	
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte	
4-methylpentan-2-one (108-10-1)		
Switzerland - Occupational Exposure Limits		
Local name	4-Méthylpentan-2-one / 4-Methylpentan-2-on [Hexon, Methylisobutylketon (MIBK)]	
MAK (OEL TWA)	82 mg/m³	
	20 ppm	
KZGW (OEL STEL)	164 mg/m³	
	40 ppm	
Notation	R, SS <sub>C</sub> , B / H, SS <sub>C</sub> , B	
Remark	INRS, NIOSH, DFG	
Regulatory reference	www.suva.ch, 01.01.2024	
Switzerland - BAT		
Local name	4-Méthylpentan-2-one / 4-Methylpentan-2-on	

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4-methylpentan-2-one (108-10-1)	
BAT	0.7 mg/l (Paramètre biologique: 4-Méthylpentane-2-one; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (Biologischer Parameter: 4-Methylpentan-2-on; Untersuchungsmaterial: Urin; Probennahmezeitpunkt: Expositionsende, bzw. Schichtende.)
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte

#### 8.1.2. Recommended monitoring procedures

No additional information available

#### 8.1.3. Air contaminants formed

No additional information available

#### 8.1.4. DNEL and PNEC

No additional information available

#### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. Pay attention to explosion protection guidelines. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

#### 8.2.2. Personal protection equipment

#### 8.2.2.1. Eye and face protection

## Eye protection:

Protective goggles (EN 166). Safety glasses

#### 8.2.2.2. Skin protection

#### Skin and body protection:

Long sleeved protective clothing

#### Hand protection:

Chemically resistant protective gloves. This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions. Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves

Hand protection					
Туре	Material	Permeation	Thickness (mm)	Penetration	Standard
protective gloves	Neoprene	6 (> 480 minutes)	0,75		
protective gloves	Polyvinylchloride (PVC)	6 (> 480 minutes)	1,3		

#### 8.2.2.3. Respiratory protection

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. [In case of inadequate ventilation] wear respiratory protection.

Respiratory protection			
Device	Filter type	Condition	Standard
Breathing apparatus with filter		Short term exposure	
Self contained breathing apparatus		Long term exposure	

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#### 8.2.2.4. Thermal hazards

No additional information available

#### 8.2.3. Environmental exposure controls

#### **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

: According to product specification. Colour

Odour : characteristic. Odour threshold : Not available Melting point : Not available Freezing point : Not available Boiling point : 79 °C

Flammability : Not applicable, Highly flammable liquid and vapour

Explosive properties Product is not explosive. Flammable or explosive vapour/air mixtures may be formed.

Oxidising properties : Not self-igniting.

Lower explosive limit (LEL) 1 vol % Upper explosive limit (UEL) 11.5 vol % Flash point < 0 °C Auto-ignition temperature : Not available Decomposition temperature : Not available : Not available Viscosity, kinematic : Not available Solubility : Water: immiscible Partition coefficient n-octanol/water (Log Kow) : Not available : 105 hPa (20°C) Vapour pressure Vapour pressure at 50°C : Not available : 0.85 g/cm<sup>3</sup> (20°C) Density Relative density : Not available

Relative vapour density at 20°C Not available Particle characteristics Not applicable

## 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

: 425 °C Ignition temperature Solvent content : 100%

## **SECTION 10: Stability and reactivity**

#### 10.1. Reactivity

No data available. Highly flammable liquid and vapour.

#### 10.2. Chemical stability

No decomposition if stored and applied as directed.

#### 10.3. Possibility of hazardous reactions

In use, may form flammable/explosive vapour-air mixture.

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#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

Oxidizing agent. Acids. Strong bases.

## 10.6. Hazardous decomposition products

Toxic gases.

## **SECTION 11: Toxicological information**

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

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met) Acute toxicity (dermal) Not classified (Based on available data, the classification criteria are not met) Acute toxicity (inhalation) Not classified (Based on available data, the classification criteria are not met)

#### propan-2-ol; isopropyl alcohol; isopropanol (67-63-0)

LD50 dermal	12870 mg/kg
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Suspected of damaging the unborn child.
STOT-single exposure	: May cause drowsiness or dizziness. May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

4-methylpentan-2-one (108-10-1)	
LOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	250 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90- Day Oral Toxicity Study in Rodents)
NOAEC (inhalation, rat, vapour, 90 days)	4106 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)

Aspiration hazard : May be fatal if swallowed and enters airways.

#### 11.2. Information on other hazards

No additional information available

## **SECTION 12: Ecological information**

## 12.1. Toxicity

Ecology - general Hazardous to the aquatic environment, short–term	:	Toxic to aquatic life with long lasting effects.  Not classified (Based on available data, the classification criteria are not met)
(acute)		
Hazardous to the aquatic environment, long-term	:	Not classified (Based on available data, the classification criteria are not met)
(chronic)		

(em eme)	
4-methylpentan-2-one (108-10-1)	
LC50 fish 1	> 179 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 Daphnia 1	> 200 mg/l Test organisms (species): Daphnia magna

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#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

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

No additional information available

## 12.6. Endocrine disrupting properties

No additional information available

#### 12.7. Other adverse effects

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

## **SECTION 13: Disposal considerations**

#### 13.1. Waste treatment methods

Waste treatment methods

Sewage disposal recommendations

Product/Packaging disposal recommendations

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Do not discharge into drains.

: Must not be disposed together with household garbage. Empty containers should be taken for local recycling, recovery or waste disposal. Packaging that cannot be cleaned should be disposed of like the product.

The vapour/air mixture is explosive, even in empty, uncleaned receptacles. Flammable

vapours may accumulate in the container.

**Switzerland** 

Additional information

Waste code (VeVA) : 16 05 08 - [S] Discarded organic chemicals consisting of or containing dangerous

substances

## **SECTION 14: Transport information**

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID		
14.1. UN number or ID n	14.1. UN number or ID number					
UN 1993	UN 1993	UN 1993	UN 1993	UN 1993		
14.2. UN proper shippin	g name					
FLAMMABLE LIQUID, N.O.S. (Benzene, methyl-; Butanone)	FLAMMABLE LIQUID, N.O.S. (Benzene, methyl- ; Butanone)	Flammable liquid, n.o.s. (Benzene, methyl- ; Butanone)	FLAMMABLE LIQUID, N.O.S. (Benzene, methyl- ; Butanone)	FLAMMABLE LIQUID, N.O.S. (Benzene, methyl- ; Butanone)		
Transport document descr	Transport document description					
UN 1993 FLAMMABLE LIQUID, N.O.S. (Benzene, methyl-; Butanone), 3, II, (D/E)	UN 1993 FLAMMABLE LIQUID, N.O.S. (Benzene, methyl-; Butanone), 3, II	UN 1993 Flammable liquid, n.o.s. (Benzene, methyl- ; Butanone), 3, II	UN 1993 FLAMMABLE LIQUID, N.O.S. (Benzene, methyl- ; Butanone), 3, II	UN 1993 FLAMMABLE LIQUID, N.O.S. (Benzene, methyl-; Butanone), 3, II		
14.3. Transport hazard	14.3. Transport hazard class(es)					
3	3	3	3	3		

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ADR	IMDG	IATA	ADN	RID
3		3	3	3
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

#### 14.6. Special precautions for user

## **Overland transport**

Classification code (ADR) : F1

Special provisions (ADR) : 274, 601, 640D

Limited quantities (ADR) 11

: E2 Excepted quantities (ADR)

Packing instructions (ADR) P001, IBC02, R001

Mixed packing provisions (ADR) MP19 Transport category (ADR)

Hazard identification number (Kemler No.) Orange plates

33 1993

Tunnel restriction code (ADR) : D/E

#### Transport by sea

Special provisions (IMDG) : 274 Limited quantities (IMDG) : 1L Excepted quantities (IMDG) : E2 Packing instructions (IMDG) : P001 IBC packing instructions (IMDG) : IBC02 Tank instructions (IMDG) T7

Tank special provisions (IMDG) : TP1, TP28, TP8

EmS-No. (Fire) : F-E EmS-No. (Spillage) S-E Stowage category (IMDG) : B

## Air transport

PCA Excepted quantities (IATA) : E2 PCA Limited quantities (IATA) : Y341 PCA limited quantity max net quantity (IATA) : 1L PCA packing instructions (IATA) : 353 PCA max net quantity (IATA) : 5L CAO packing instructions (IATA) : 364 CAO max net quantity (IATA) : 60L Special provisions (IATA) : A3 ERG code (IATA) : 3H

#### **Inland waterway transport**

: F1 Classification code (ADN)

: 274, 601, 640C Special provisions (ADN)

Limited quantities (ADN) : 1 L Excepted quantities (ADN) : E2

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Equipment required (ADN) : PP, EX, A Ventilation (ADN) : VE01 Number of blue cones/lights (ADN) : 1

Rail transport

Classification code (RID) : F1

Special provisions (RID) : 274, 601, 640C

Limited quantities (RID) : 1L Excepted quantities (RID) : E2 Packing instructions (RID) : P001 : 2 Transport category (RID) Hazard identification number (RID) : 33

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## **SECTION 15: Regulatory information**

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

#### 15.1.1. EU-Regulations

#### **REACH Annex XVII (Restriction List)**

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
28.	Universalverdünner	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.

#### **REACH Annex XIV (Authorisation List)**

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

#### **REACH Candidate List (SVHC)**

Contains no substance(s) listed on the REACH Candidate List

#### **PIC Regulation (Prior Informed Consent)**

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

#### **POP Regulation (Persistent Organic Pollutants)**

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

#### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

## **Explosives Precursors Regulation (2019/1148)**

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

#### **Drug Precursors Regulation (273/2004)**

Contains substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Name	CN designation	CAS-No.	CN code	Category, Subcategory	Threshold	Annex
Toluene		108-88-3	2902 30 00	Category 3		Annex I
Methylethylketone	Butanone	78-93-3	2914 12 00	Category 3		Annex I

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#### **Seveso Directive (Disaster Risk Reduction)**

Seveso III Part I (Categories of dangerous substances)	Qualifying quantity (tonnes)	
	Lower-tier	Upper-tier
P5c FLAMMABLE LIQUIDS Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	5000	50000

#### 15.1.2. National regulations

#### **Switzerland**

Swiss National Regulations

: Article 13 Order on the protection of maternity (RS 822.111.52):

Pregnant women and breastfeeding mothers cannot come into contact with this product (this substance/this preparation) when working except where it has been established, on the basis of a risk analysis performed in accordance with Art. 63 OLT 1 (RS 822.111), that there is no concrete threat to the health of the mother or baby or that said threat can be excluded thanks to the suitable protection measures taken.

Article 4, subparagraph 4 Order on the protection of young workers (OLT 5, RS 822.115) and Article 1, letter f Order of the DEFR on dangerous works for young workers (822.115.2): Young workers undergoing initial professional training cannot work with this product (this substance/this preparation) except where envisaged in the order of professional training to achieve the training purposes and if the training plan conditions and applicable age limits are respected. Young workers who do not undergo initial professional training cannot work with this product (this substance/this preparation). Workers of either sex aged under 18 years old are considered as young.

Water Protection Ordinance (GSchV, SR 814.201)

Clean Air Ordinance (LRV, SR 814.318.142.1)

: Annex 1, number 7, Class 2

Emission concentration must not exceed the following value: 100 mg/m<sup>3</sup>

Accident Ordinance (StFV, SR 814.012)

: Annex 1, number 4

: Class B

Threshold quantity: 20000 kg

VOC Ordinance (VOCV, SR 814.018) : 100 %

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## **SECTION 16: Other information**

Abbreviations and acronyms:		
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	
ATE	Acute Toxicity Estimate	
BLV	Biological limit value	
CAS-No.	Chemical Abstract Service number	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008	
DMEL	Derived Minimal Effect level	
DNEL	Derived-No Effect Level	
EC50	Median effective concentration	
EC-No.	European Community number	
EN	European Standard	
IATA	International Air Transport Association	
IMDG	International Maritime Dangerous Goods	

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Abbreviations and acr	Abbreviations and acronyms:			
LC50	Median lethal concentration			
LD50	Median lethal dose			
LOAEL	Lowest Observed Adverse Effect Level			
NOAEC	No-Observed Adverse Effect Concentration			
NOAEL	No-Observed Adverse Effect Level			
NOEC	No-Observed Effect Concentration			
OEL	Occupational Exposure Limit			
PBT	Persistent Bioaccumulative Toxic			
PNEC	Predicted No-Effect Concentration			
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006			
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail			
SDS	Safety Data Sheet			
vPvB	Very Persistent and Very Bioaccumulative			
WGK	Water Hazard Class			
BCF	Bioconcentration factor			
BOD	Biochemical oxygen demand (BOD)			
COD	Chemical oxygen demand (COD)			
IARC	International Agency for Research on Cancer			
OECD	Organisation for Economic Co-operation and Development			
STP	Sewage treatment plant			
ThOD	Theoretical oxygen demand (ThOD)			
TLM	Median Tolerance Limit			
VOC	Volatile Organic Compounds			
N.O.S.	Not Otherwise Specified			
ED	Endocrine disrupting properties			
DOT	Department of Transport			
TDG	Transportation of Dangerous Goods			
GHS	Globally Harmonized System of Classification, Labelling and Packaging of Chemicals			
IBC-Code	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk			
MARPOL 73/78	MARPOL 73/78: International Convention for the Prevention of Pollution From Ships			
ADG	Transport of Australian Dangerous Goods			

Other information

: Data of sections 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities. The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge. The delivery specifications are contained in the corresponding product sheet. This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

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Full text of H- and EUF	Full text of H- and EUH-statements:		
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4		
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4		
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4		
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3		
Asp. Tox. 1	Aspiration hazard, Category 1		
Carc. 2	Carcinogenicity, Category 2		
EUH066	Repeated exposure may cause skin dryness or cracking.		
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2		
Flam. Liq. 2	Flammable liquids, Category 2		
Flam. Liq. 3	Flammable liquids, Category 3		
H225	Highly flammable liquid and vapour.		
H226	Flammable liquid and vapour.		
H304	May be fatal if swallowed and enters airways.		
H312	Harmful in contact with skin.		
H315	Causes skin irritation.		
H319	Causes serious eye irritation.		
H332	Harmful if inhaled.		
H335	May cause respiratory irritation.		
H336	May cause drowsiness or dizziness.		
H351	Suspected of causing cancer.		
H361d	Suspected of damaging the unborn child.		
H373	May cause damage to organs through prolonged or repeated exposure.		
H412	Harmful to aquatic life with long lasting effects.		
Repr. 2	Reproductive toxicity, Category 2		
Skin Irrit. 2	Skin corrosion/irritation, Category 2		
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2		
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis		

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 2	H225	On basis of test data
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Carc. 2	H351	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 3	H336	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method
Asp. Tox. 1	H304	Expert judgement

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should therefore not be construed as guaranteeing any specific property of the product.