

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

#### 1.1. Product identifier

Product form : Mixture  
 Product name : De-Icer  
 Product code : VC129

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

##### 1.2.1. Relevant identified uses

Main use category : Industrial use, Professional use, Consumer use  
 Use of the substance/mixture : Cleaning/washing agents and additives

##### 1.2.2. Uses advised against

No additional information available

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

Valet-Chem Ltd  
 Summit Close  
 NG17 8GJ Kirkby In Ashfield Nottingham, Nottinghamshire  
 United Kingdom  
 T +44 (0) 844 414 0987  
[info@valetchem.co.uk](mailto:info@valetchem.co.uk)

#### 1.4. Emergency telephone number

Emergency number : +44 (0) 844 414 0987

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB	0344 892 0111	Only for healthcare professionals

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

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

Flammable liquids, Category 1 H224  
 Serious eye damage/eye irritation, Category 2 H319

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

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

### Adverse physicochemical, human health and environmental effects

Extremely flammable liquid and vapour. Causes serious eye irritation.

## 2.2. Label elements

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

Hazard pictograms (CLP)



GHS02

GHS07

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H224 - Extremely flammable liquid and vapour.  
H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground and bond container and receiving equipment.  
P241 - Use explosion-proof electrical/ventilating/lighting equipment.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P370+P378 - In case of fire: Use media other than water to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

## 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  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 is 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

## 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]
PROPAN-2-OL	CAS-No.: 67-63-0 EC-No.: 200-661-7 EC Index-No.: 603-117-00-0	1 – 10	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336
ETHYLENE GLYCOL	CAS-No.: 107-21-1 EC-No.: 203-473-3 EC Index-No.: 603-027-00-1 REACH-no: 01-2119456816-28	1 – 10	Acute Tox. 4 (Oral), H302

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ACETIC ACID	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	1 – 10	Skin Corr. 1A, H314 Eye Dam. 1, H318

### Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
ACETIC ACID	CAS-No.: 64-19-7 EC-No.: 200-580-7 EC Index-No.: 607-002-00-6	(10 ≤ C < 25) Skin Irrit. 2, H315 (10 ≤ C < 25) Eye Irrit. 2, H319 (25 ≤ C < 90) Skin Corr. 1B, H314 (90 ≤ C ≤ 100) Skin Corr. 1A, H314

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: 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	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after eye contact	: Eye irritation.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
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### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Extremely flammable liquid and vapour.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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## SECTION 6: Accidental release measures

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

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes.
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### 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.

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

Methods for cleaning up : Take up liquid spill into absorbent material. 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

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

#### Switzerland

Storage class (LK) : LK 3 - Flammable liquids

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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

PROPAN-2-OL (67-63-0)	
Austria - Occupational Exposure Limits	
Local name	2-Propanol (Isopropanol; Isopropylalkohol)
MAK (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
MAK (OEL STEL)	2000 mg/m <sup>3</sup> (4x 30(Miw) min) (Kurzzzeitwert für Großguss gilt bis 31.12.2013)
	2000 mg/m <sup>3</sup> (4x 15(Miw) min)
	800 ppm (4x 30(Miw) min) (Kurzzzeitwert für Großguss gilt bis 31.12.2013)
	800 ppm (4x 15(Miw) min)
Regulatory reference	BGBl. II Nr. 156/2021

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<b>PROPAN-2-OL (67-63-0)</b>	
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Alcool isopropylique # Isopropylalcohol
OEL TWA	500 mg/m <sup>3</sup>
	200 ppm
OEL STEL	1000 mg/m <sup>3</sup>
	400 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 19/11/2020
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Изопропилов алкохол
OEL TWA	980 mg/m <sup>3</sup>
OEL STEL	1225 mg/m <sup>3</sup>
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
<b>Croatia - Occupational Exposure Limits</b>	
Local name	Propan-2-ol; izopropil-alkohol; izopropanol
GVI (OEL TWA)	999 mg/m <sup>3</sup>
	400 ppm
KGVI (OEL STEL)	1250 mg/m <sup>3</sup>
	500 ppm
Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 1/2021)
<b>Croatia - Biological limit values</b>	
Local name	Propan-2-ol
BLV	50 mg/l Karakteristični pokazatelj: aceton - Biološki uzorak: krv - Vrijeme uzorkovanja: na kraju radne smjene 0.86 µmol/l Karakteristični pokazatelj: aceton - Biološki uzorak: krv - Vrijeme uzorkovanja: na kraju radne smjene 50 mg/l Karakteristični pokazatelj: aceton - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene 0.86 µmol/l Karakteristični pokazatelj: aceton - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene
Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 91/2018)
<b>Czech Republic - Occupational Exposure Limits</b>	
Local name	2-Propanol (Isopropanol; Izopropylalkohol)
PEL (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
NPK-P (OEL C)	1000 mg/m <sup>3</sup>
	400 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)

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<b>PROPAN-2-OL (67-63-0)</b>	
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Isopropylalkohol (Isopropanol; 2-Propanol; sec-Propylalkohol)
OEL TWA	490 mg/m <sup>3</sup>
	200 ppm
Regulatory reference	BEK nr 1426 af 28. juni 2021
<b>Estonia - Occupational Exposure Limits</b>	
Local name	2-propanool (isopropüülalkohol, isopropanool)
OEL TWA	350 mg/m <sup>3</sup>
	150 ppm
OEL STEL	600 mg/m <sup>3</sup>
	250 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 17.10.2019, 2); Vabariigi Valitsuse 10. märtsi 2019. a määruse nr 84
<b>Finland - Occupational Exposure Limits</b>	
Local name	2-Propanoli
HTP (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
HTP (OEL STEL)	620 mg/m <sup>3</sup>
	250 ppm
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
<b>France - Occupational Exposure Limits</b>	
Local name	Alcool isopropylique
VLE (OEL C/STEL)	980 mg/m <sup>3</sup>
	400 ppm
Remark	Valeurs recommandées/admises
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>	
AGW (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
Peak exposure limitation factor	2(II)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
<b>Germany - Biological limit values (TRGS 903)</b>	
Local name	Propan-2-ol
Biological limit value	25 mg/l Parameter: Aceton - Untersuchungsmaterial: B = Vollblut, U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 11/2012 DFG 25 mg/l Parameter: Aceton - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 11/2012 DFG

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<b>PROPAN-2-OL (67-63-0)</b>	
Regulatory reference	TRGS 903
<b>Greece - Occupational Exposure Limits</b>	
Local name	Ισοπροπυλική αλκοόλη
OEL TWA	980 mg/m <sup>3</sup> 400 ppm
OEL STEL	1225 mg/m <sup>3</sup> 500 ppm
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
<b>Hungary - Occupational Exposure Limits</b>	
Local name	IZOPROPIL-ALKOHOL
AK (OEL TWA)	500 mg/m <sup>3</sup>
CK (OEL STEL)	1000 mg/m <sup>3</sup>
Remark	b (Bőrön át is felszívódik), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármat); R (Azok az anyagok, amelyek egészségkárosító hatása RÖVID expozíció hatására jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Hungary - Biological Exposure Indices</b>	
Local name	Izopropil-alkohol (2-Propanol)
BEI	430 µmol/l Biológiai expozíciós (hatás) mutató: aceton - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén) 25 mg/l Biológiai expozíciós (hatás) mutató: aceton - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén)
Remark	A foglalkozási vegyi expozíció esetén ajánlott biológiai expozíciós és hatásmutatók határértékei
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
<b>Ireland - Occupational Exposure Limits</b>	
Local name	Isopropyl alcohol [Propan-2-ol]
OEL TWA	200 ppm
OEL STEL	400 ppm
Remark	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body)
Regulatory reference	Chemical Agents Code of Practice 2021
<b>Ireland - Biological limit values</b>	
Local name	2-Propanol
BMGV	40 mg/l Parameter: acetone - Medium: urine - Sampling time: End of shift at end of workweek - Notations: B (Background), Ns (Non-specific)
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
<b>Latvia - Occupational Exposure Limits</b>	
Local name	Izopropanols (2-propanols, izopropilspirts, 1-metil-1-etanols)
OEL TWA	350 mg/m <sup>3</sup>

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<b>PROPAN-2-OL (67-63-0)</b>	
OEL STEL	600 mg/m <sup>3</sup>
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
<b>Lithuania - Occupational Exposure Limits</b>	
Local name	2-propanolis (izopropanolis, izopropilo alkoholis)
IPRV (OEL TWA)	350 mg/m <sup>3</sup>
	150 ppm
TPRV (OEL STEL)	600 mg/m <sup>3</sup>
	250 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
<b>Poland - Occupational Exposure Limits</b>	
Local name	Propan-2-ol (izopropylowy alkohol)
NDS (OEL TWA)	900 mg/m <sup>3</sup>
NDSch (OEL STEL)	1200 mg/m <sup>3</sup>
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2018 poz. 1286
<b>Portugal - Occupational Exposure Limits</b>	
Local name	2-Propanol (isopropanol ou álcool isopropílico)
OEL TWA	200 ppm
OEL STEL	400 ppm
Remark	A4 (Agente não classificável como carcinogénico no Homem); IBE (Índice biológico de exposição)
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Portugal - Biological Exposure Indices</b>	
Local name	2-Propanol
BEI	40 mg/l Parâmetro: Acetona - Meio: urina - Momento da amostragem: Fim do turno no fim da semana de trabalho - Notação: Vb (Valor basal), Ne (Não específico)
Regulatory reference	Norma Portuguesa NP 1796:2014
<b>Romania - Occupational Exposure Limits</b>	
Local name	Alcool izopropilic/2-Propanol
OEL TWA	200 mg/m <sup>3</sup>
	81 ppm
OEL STEL	500 mg/m <sup>3</sup>
	203 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
<b>Romania - Biological limit values</b>	
Local name	Alcool izopropilic
BLV	50 mg/l Indicador biologic: Acetonă - Material biologic: urină - Momentul recoltării: sfârșit de schimb
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 584/2018)



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<b>PROPAN-2-OL (67-63-0)</b>	
<b>Slovakia - Occupational Exposure Limits</b>	
Local name	Izopropylalkohol (propán-2-ol)
NPHV (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
NPHV (OEL STEL)	1000 mg/m <sup>3</sup>
	400 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
<b>Slovenia - Occupational Exposure Limits</b>	
Local name	propan-2-ol (izopropilalkohol; izopropanol)
OEL TWA	500 mg/m <sup>3</sup>
	200 ppm
OEL STEL	1000 mg/m <sup>3</sup>
	400 ppm
Remark	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), BAT (Biološka mejna vrednost)
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
<b>Slovenia - Biological limit values</b>	
Local name	2-propanol
BLV	25 mg/l Parameter: aceton - Biološki vzorec: kri - Čas vzorčenja: ob koncu delovne izmene 25 mg/l Parameter: aceton - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmene
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
<b>Spain - Occupational Exposure Limits</b>	
Local name	Isopropanol (Alcohol isopropílico)
VLA-ED (OEL TWA)	500 mg/m <sup>3</sup>
	200 ppm
VLA-EC (OEL STEL)	1000 mg/m <sup>3</sup>
	400 ppm
Remark	VLB® (Agente químico que tiene Valor Límite Biológico), s (Esta sustancia tiene prohibida total o parcialmente su comercialización y uso como fitosanitario y/o como biocida. Para una información detallada acerca de las prohibiciones consúltese: Base de datos de productos biocidas: <a href="http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas">http://www.msssi.gob.es/ciudadanos/productos.do?tipo=plaguicidas</a> Base de datos de productos fitosanitarios <a href="http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf">http://www.magrama.gob.es/agricultura/pags/fitos/registro/fichas/pdf/Lista_sa.pdf</a> ).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2021. INSHT
<b>Spain - Biological limit values</b>	
Local name	Isopropanol (Alcohol isopropílico)
BLV	40 mg/l Parámetro: Acetona - Medio: Orina - Momento de muestreo: Final de la semana laboral - Notas: F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboralmente. Estos niveles de fondo están considerados en el valor VLB), I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos)

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PROPAN-2-OL (67-63-0)	
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2021. INSHT
<b>Sweden - Occupational Exposure Limits</b>	
Local name	Isopropanol
NGV (OEL TWA)	350 mg/m <sup>3</sup>
	150 ppm
KTV (OEL STEL)	600 mg/m <sup>3</sup>
	250 ppm
Remark	V (Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
<b>United Kingdom - Occupational Exposure Limits</b>	
Local name	Propan-2-ol
WEL TWA (OEL TWA)	999 mg/m <sup>3</sup>
	400 ppm
WEL STEL (OEL STEL)	1250 mg/m <sup>3</sup>
	500 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
<b>Iceland - Occupational Exposure Limits</b>	
Local name	2-Própanól (Ísóprópanól, Ísóprópylalkóhól, sec-própylalkóhól)
OEL TWA	490 mg/m <sup>3</sup>
	200 ppm
Remark	H (efnið getur auðveldlega borist inn í líkamann gegnum húð)
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
<b>Norway - Occupational Exposure Limits</b>	
Local name	2-propanol (Isopropanol)
Grenseverdi (OEL TWA)	245 mg/m <sup>3</sup>
	100 ppm
Regulatory reference	FOR-2021-06-28-2248
<b>North Macedonia - Occupational Exposure Limits</b>	
Local name	пропан-2-ол (изопропилалкохол; изопропанол)
OEL TWA	500 mg/m <sup>3</sup>
	200 ppm
KTV	4
Short time value [mg/m <sup>3</sup> ]	2000 mg/m <sup>3</sup>
Short time value [ppm]	800 ppm

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PROPAN-2-OL (67-63-0)	
Remark	(КТВ) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанции во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m <sup>3</sup> или во ml/m <sup>3</sup> (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (Y); (BAT) биолошка гранична вредност – праг на биолошка гранична вредност, што значи предупредување на опасна хемиска супстанца и нејзини метаболити во ткивата, телесните течности или издишувањето на воздухот, без оглед на тоа, дали опасната хемиска супстанца е внесена во организмот со вдишување, голтање или преку кожата
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија” бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	2-Propanol / 2-Propanol [iso-Propylalkohol, Isopropanol, Isopropylalkohol]
MAK (OEL TWA)	500 mg/m <sup>3</sup> 200 ppm
KZGW (OEL STEL)	1000 mg/m <sup>3</sup> 400 ppm
Critical toxicity	VRS, Foie, SNC, Yeux / OAW, Leber, ZNS, Auge
Notation	SS <sub>c</sub> , B / SS <sub>c</sub> , B
Remark	INRS, NIOSH
Regulatory reference	www.suva.ch, 01.01.2021
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

### 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

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### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

#### 8.2.2. Personal protection equipment

**Personal protective equipment:**

Gloves. Protective clothing.

**Personal protective equipment symbol(s):**



##### 8.2.2.1. Eye and face protection

**Eye protection:**

Safety glasses

##### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing

**Hand protection:**

Protective gloves

##### 8.2.2.3. Respiratory protection

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment

##### 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
Colour	: Not available
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not applicable
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 93 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 2 – 3
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available

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Density	: Not available
Relative density	: $\geq 1.03 - 1.05$
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

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Extremely flammable liquid and vapour.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

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

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

PROPAN-2-OL (67-63-0)	
LD50 oral rat	5840 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
ETHYLENE GLYCOL (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight Animal: rat
LD50 oral	5500 mg/kg
ACETIC ACID (64-19-7)	
LD50 oral rat	3310 mg/kg bodyweight Animal: rat, Remarks on results: other:
LD50 oral	4960 mg/kg bodyweight Animal: mouse, Remarks on results: other:

Skin corrosion/irritation	: Not classified pH: 2 – 3
Serious eye damage/irritation	: Causes serious eye irritation. pH: 2 – 3
Respiratory or skin sensitisation	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified

### PROPAN-2-OL (67-63-0)

STOT-single exposure	May cause drowsiness or dizziness.
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STOT-repeated exposure	: Not classified
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### ACETIC ACID (64-19-7)

NOAEL (oral, rat, 90 days)	290 mg/kg bodyweight Animal: rat, Animal sex: male
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Aspiration hazard	: Not classified
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### ACETIC ACID (64-19-7)

Viscosity, kinematic	1015.385 mm <sup>2</sup> /s
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## 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

### PROPAN-2-OL (67-63-0)

LC50 - Fish [1]	10000 mg/l Test organisms (species): Pimephales promelas
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LC50 - Fish [2]	9640 mg/l Test organisms (species): Pimephales promelas
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### ETHYLENE GLYCOL (107-21-1)

LC50 - Fish [1]	> 72860 mg/l Test organisms (species): Pimephales promelas
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EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
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NOEC (chronic)	≥ 1000 mg/l Test organisms (species): Americamysis bahia (previous name: Mysidopsis bahia) Duration: '23 d'
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### ACETIC ACID (64-19-7)

LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
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LC50 - Fish [2]	> 300.82 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
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EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna
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EC50 - Crustacea [2]	> 300.82 mg/l Test organisms (species): Daphnia magna
----------------------	---

EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Skeletonema costatum
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EC50 72h - Algae [2]	> 300.82 mg/l Test organisms (species): Skeletonema costatum
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### 12.2. Persistence and degradability

#### De-Icer

Persistence and degradability	Not rapidly degradable
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#### PROPAN-2-OL (67-63-0)

Persistence and degradability	Not rapidly degradable
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#### ETHYLENE GLYCOL (107-21-1)

Persistence and degradability	Not rapidly degradable
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#### ACETIC ACID (64-19-7)

Persistence and degradability	Not rapidly degradable
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### 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

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Additional information : Flammable vapours may accumulate in the container.

## SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not regulated for transport				
<b>14.2. UN proper shipping name</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated

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ADR	IMDG	IATA	ADN	RID
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not regulated

#### Transport by sea

Not regulated

#### Air transport

Not regulated

#### Inland waterway transport

Not regulated

#### Rail transport

Not regulated

### 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)

Contains no REACH substances with Annex XVII restrictions

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

Contains no REACH Annex XIV substances

##### REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

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

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

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

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

##### Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

##### Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

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

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

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

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.



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### 15.1.2. National regulations

#### France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

#### Germany

Employment restrictions	: Observe restrictions according Act on the Protection of Working Mothers (MuSchG). Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).
Water hazard class (WGK)	: WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Chemicals Prohibition Ordinance (ChemVerbotsV)	: This product is subject to ChemVerbotsV Annex 2 Entry 2. The following requirement must be observed: Basic requirements for the implementation of the submission (according to § 8 paragraph 1, 3 and 4).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen	: None of the components are listed
SZW-lijst van mutagene stoffen	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid	: None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling	: None of the components are listed

#### Denmark

Classification remarks	: Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations	: Young people below the age of 18 years are not allowed to use the product

### 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
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer

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Abbreviations and acronyms:	
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
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
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
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.
H336	May cause drowsiness or dizziness.
Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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### Full text of H- and EUH-statements:

STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
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Safety Data Sheet (SDS), EU

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 not therefore be construed as guaranteeing any specific property of the product.