



Rustins Plastic Floor Coating Hardener

Safety Data Sheet

*** DRAFT ***

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830
Issue date: 9/25/2012 Revision date: 7/21/2023 Supersedes version of: 7/21/2023 Version: 16.0

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

1.1. Product identifier

Product form : Mixture
Trade name : Rustins Plastic Floor Coating Hardener
UFI : K3YG-DET2-JW0J-6WKQ
Product code : PCHF
Type of product : Acids
Synonyms : HARDENER - FOR PLASTIC FLOOR COATING
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Professional use, Industrial use
Industrial/Professional use spec : For professional use only
Industrial
Use of the substance/mixture : Catalyst
Function or use category : 55/999 Others

1.2.2. Uses advised against

1 October 2023 businesses supplying regulated explosives precursors to professional users and other businesses (i.e, those who don't need a licence) will need to take additional steps to verify the legitimacy of the professional user or business.

1.3. Details of the supplier of the safety data sheet

Manufacturer

Rustins Ltd
Waterloo road
NW2 7TX London
United Kingdom
T +44 (0)208 450 4666 - F +44 (0)208 452 2008
rustins@rustins.co.uk - rustins.ltd

Distributor

Excellence Ltd
43 Grange Parade,
Unit 43 Baldoyle Industrial Estate,
D13 Y860 Dublin
Ireland
T 00353 (0)1 8323300 - F 00353 (0)1 8323584
Orders@excellence.ie - www.excellence.ie

1.4. Emergency telephone number

Emergency number : +44 (0)208 450 4666
OFFICE HOURS ONLY MON. - FRI. 08:00 - 16:30

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	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 3 H226
Acute toxicity (oral), Category 4 H302
Skin corrosion/irritation, Category 1 H314

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Serious eye damage/eye irritation, Category 1 H318
Specific target organ toxicity – Single exposure, Category 3, Narcosis H336
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335

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

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May cause drowsiness or dizziness. Harmful if swallowed. May cause respiratory irritation. Causes severe skin burns and eye damage. Causes serious eye damage.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

Contains

Hazard statements (CLP)

Precautionary statements (CLP)

:
: Danger
: sulphuric acid ... %; butan-1-ol; n-butanol
: H226 - Flammable liquid and vapour.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H335 - May cause respiratory irritation.
H336 - May cause drowsiness or dizziness.
: P102 - Keep out of reach of children.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P260 - Do not breathe vapours, fume.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTER if you feel unwell.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P310 - Immediately call a POISON CENTER.
P312 - Call a POISON CENTER if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents and 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

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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]
butan-1-ol; n-butanol substance with national workplace exposure limit(s) (GB, IE)	CAS-No.: 71-36-3 EC-No.: 200-751-6 EC Index-No.: 603-004-00-6 REACH-no: 01-2119484630-38	≥ 70 – < 80	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H336 STOT SE 3, H335
sulphuric acid ... %	CAS-No.: 7664-93-9 EC-No.: 231-639-5 EC Index-No.: 016-020-00-8	25	Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits
sulphuric acid ... %	CAS-No.: 7664-93-9 EC-No.: 231-639-5 EC Index-No.: 016-020-00-8	(5 ≤C < 15) Skin Irrit. 2, H315 (5 ≤C < 15) Eye Irrit. 2, H319 (15 ≤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 general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

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 : 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.

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. Do not breathe dust/fume/gas/mist/vapours/spray.

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 : 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. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. 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. Store locked up.

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

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EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Sulphuric acid (mist)
IOEL TWA	0.05 mg/m ³
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
Austria - Occupational Exposure Limits	
Local name	Butanol (Butylalkohol) (alle Isomeren außer 2-Methyl-2-propanol): 1-Butanol
MAK (OEL TWA)	150 mg/m ³
MAK (OEL TWA) [ppm]	50 ppm
MAK (OEL STEL)	600 mg/m ³ (4x 15(Miw) min)
MAK (OEL STEL) [ppm]	200 ppm (4x 15(Miw) min)
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Alcool n-butylique # n-Butanol
OEL TWA	62 mg/m ³
OEL TWA [ppm]	20 ppm
Remark	D: la mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # D: de vermelding "D" betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Croatia - Occupational Exposure Limits	
Local name	Butan-1-ol; n-butanol
KGVI (OEL STEL)	154 mg/m ³
KGVI (OEL STEL) [ppm]	50 ppm
Remark	Koža (razvrstana kao tvar koja nadražuje kožu (H315))
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граниčnim vrijednostima izloženosti i biološkim граниčnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Butanol (Butylalkohol) isomery: 1-Butanol
PEL (OEL TWA)	300 mg/m ³
PEL (OEL TWA) [ppm]	97.5 ppm
NPK-P (OEL C)	600 mg/m ³
NPK-P (OEL C) [ppm]	195 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Butanol, alle isomere: 1-Butanol (Butylalkohol)
OEL C	150 mg/m ³
OEL C [ppm]	50 ppm

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Remark	H (betyder, at stoffet kan optages gennem huden)
Regulatory reference	BEK nr 202 af 21/02/2023
Finland - Occupational Exposure Limits	
Local name	n-Butanoli
HTP (OEL TWA) [1]	150 mg/m ³
HTP (OEL TWA) [2]	50 ppm
HTP (OEL STEL)	230 mg/m ³
HTP (OEL STEL) [ppm]	75 ppm
Remark	lho
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveystieteiden ministeriö)
France - Occupational Exposure Limits	
Local name	Acide sulfurique
VME (OEL TWA)	0.05 mg/m ³ (fraction thoracique)
VLE (OEL C/STEL)	3 mg/m ³
Remark	VME réglementaire indicative; la VLE n'est pas réglementaire et provient d'une circulaire du ministère chargé du travail
Regulatory reference	Arrêté du 30 juin 2004 modifié et circulaire du Ministère du travail (réf.: INRS ED 984, 2016)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Schwefelsäure
AGW (OEL TWA) [1]	0.1 mg/m ³ (E)
Peak exposure limitation factor	1(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Germany - Biological limit values (TRGS 903)	
Local name	Butan-1-ol (1-Butanol)
Biological limit value	2 mg/g creatinine Parameter: Butan-1-ol (1-Butanol) (nach Hydrolyse) - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: d) vor nachfolgender Schicht - Festlegung/Begründung: 05/2013 DFG 10 mg/g creatinine Parameter: Butan-1-ol (1-Butanol) (nach Hydrolyse) - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 05/2013 DFG
Regulatory reference	TRGS 903
Gibraltar - Occupational Exposure Limits	
Local name	Sulphuric acid
OEL TWA	0.05 mg/m ³ The mist is defined as the thoracic fraction
Remark	When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds

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Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Ireland - Occupational Exposure Limits	
Local name	2-Methylpropan-2-ol [tert-Butanol, tert-Butyl alcohol]
OEL TWA [1]	300 mg/m ³
OEL TWA [2]	100 ppm
Regulatory reference	Chemical Agents Code of Practice 2021
Italy - Occupational Exposure Limits	
Local name	Acido solforico (nebulizzazione)
OEL TWA	0.05 mg/m ³
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Latvia - Occupational Exposure Limits	
Local name	Butilspirti (pirmējais, otrējais, trešējais) (n-butanols)
OEL TWA	10 mg/m ³
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2011. gada 1. februārī noteikumiem Nr. 92)
Lithuania - Occupational Exposure Limits	
Local name	n-butanolis (n-butilo alkoholis)
IPRV (OEL TWA)	45 mg/m ³
IPRV (OEL TWA) [ppm]	15 ppm
NRV (OEL C)	90 mg/m ³
NRV (OEL C) [ppm]	30 ppm
Remark	Ū (ūmus poveikis); O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Acide sulfurique (brume)
OEL STEL	0.05 mg/m ³ La brume est définie comme la fraction thoracique
Remark	Lors du choix d'une méthode appropriée de suivi de l'exposition, il convient de tenir compte des limitations et interférences potentielles qui peuvent survenir en présence d'autres composés du soufre
Regulatory reference	Mémorial A N° 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail
Malta - Occupational Exposure Limits	
Local name	Sulphuric acid
OEL TWA	0.05 mg/m ³ (mist # ċpar)
Remark	When selecting an appropriate exposure monitoring method, account should be taken of potential limitations and interferences that may arise in the presence of other sulphur compounds. The mist is defined as the thoracic fraction. # Fl-ghażla ta' metodu xieraq għall-monitoraġġ tal-esponiment, għandhom jitqiesu l-limitazzjonijiet u l-interferenzi potenzjali li jistgħu jfegġu fil-preżenza ta' komposti oħrajn tas-sulphur (kubrit). Dan iċ-ċpar huwa mfisser bħala l-frazzjoni toracika.
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)

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Portugal - Occupational Exposure Limits	
Local name	n-Butanol (Álcool n-butílico)
OEL TWA [ppm]	20 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	n-Butanol
OEL TWA	100 mg/m ³
OEL TWA [ppm]	33 ppm
OEL STEL	200 mg/m ³
OEL STEL [ppm]	66 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Slovakia - Occupational Exposure Limits	
Local name	Butylalkoholy (butanoly): n-Butanol
NPHV (OEL TWA) [1]	310 mg/m ³
NPHV (OEL TWA) [2]	100 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	žveplova kislina - megla
OEL TWA	0.05 mg/m ³
OEL STEL	0.05 mg/m ³
Remark	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Slovenia - Biological limit values	
Local name	1-butanol
BLV	2 mg/g creatinine Parameter: 1-butanol (po hidrolizi) - Biološki vzorec: urin - Čas vzorčenja: pred delovno izmeno 10 mg/g creatinine Parameter: 1-butanol (po hidrolizi) - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmene
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	n-Butanol (Alcohol n-butílico)
VLA-ED (OEL TWA) [1]	61 mg/m ³
VLA-ED (OEL TWA) [2]	20 ppm
VLA-EC (OEL STEL)	154 mg/m ³
VLA-EC (OEL STEL) [ppm]	50 ppm
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2023. INSHT
Sweden - Occupational Exposure Limits	
Local name	n-Butanol
NGV (OEL TWA)	45 mg/m ³

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NGV (OEL TWA) [ppm]	15 ppm
KTV (OEL STEL)	90 mg/m ³
KTV (OEL STEL) [ppm]	30 ppm
Remark	H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Sulphuric acid
WEL TWA (OEL TWA) [1]	0.05 mg/m ³ mist
Remark	The mist is defined as the thoracic fraction
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Norway - Occupational Exposure Limits	
Local name	Butanol (alle isomere)
Takverdi (OEL C) [1]	75 mg/m ³
Takverdi (OEL C) [2]	25 ppm
Remark	H: Kjemikalier som kan tas opp gjennom huden.
Regulatory reference	FOR-2021-06-28-2248
North Macedonia - Occupational Exposure Limits	
Local name	сулфурна киселина
OEL TWA	0.1 mg/m ³ (l) инхалабилна фракција – дел на вкупно суспендирани материји, кои работникот ги вдишува
Remark	(Y)
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	n-Butanol / n-Butanol
MAK (OEL TWA) [1]	310 mg/m ³
MAK (OEL TWA) [2]	100 ppm
KZGW (OEL STEL)	310 mg/m ³
KZGW (OEL STEL) [ppm]	100 ppm
Critical toxicity	Yeux / Auge
Notation	SS _c , B / SS _c , B
Remark	INRS, NIOSH
Regulatory reference	www.suva.ch, 01.01.2023
Switzerland - BAT	
Local name	n-Butanol / n-Butanol

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BAT	2 mg/g creatinine (Paramètre biologique: n-Butanol; Substrat d'examen: Urine) / (Biologischer Parameter: n-Butanol; Untersuchungsmaterial: Urin) 10 mg/g creatinine (Paramètre biologique: n-Butanol; Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail.) / (Biologischer Parameter: n-Butanol; 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

butan-1-ol; n-butanol (71-36-3)

Ireland - Occupational Exposure Limits

Local name	Butan-1-ol [n-Butyl alcohol]
OEL TWA [2]	20 ppm
Regulatory reference	Chemical Agents Code of Practice 2021

United Kingdom - Occupational Exposure Limits

Local name	Butan-1-ol
WEL STEL (OEL STEL)	154 mg/m ³
WEL STEL (OEL STEL) [ppm]	50 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

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.

8.2.2. Personal protection equipment

Personal protective equipment:

Gloves. Protective clothing. Gas mask.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

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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	: Colourless.
Odour	: Alcoholic.
Odour threshold	: No data available
pH	: 1 (\leq 1)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available.
Freezing point	: No data available
Boiling point	: 118 °C
Flash point	: 39 °C
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available.
Relative density	: 0.902 @ 20 C
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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.

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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

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 toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

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ATE CLP (oral)	684.182 mg/kg bodyweight
Skin corrosion/irritation	: Causes severe skin burns. pH: 1 (≤ 1)
Serious eye damage/irritation	: Causes serious eye damage. pH: 1 (≤ 1)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness. May cause respiratory irritation.

butan-1-ol; n-butanol (71-36-3)

STOT-single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified
Not rapidly degradable

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

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12.6. 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
14.1. UN number				
UN 2796	UN 2796	UN 2796	UN 2796	UN 2796
14.2. UN proper shipping name				
SULPHURIC ACID	SULPHURIC ACID	Sulphuric acid	SULPHURIC ACID	SULPHURIC ACID
Transport document description				
UN 2796 SULPHURIC ACID, 8, II, (E)	UN 2796 SULPHURIC ACID, 8, II	UN 2796 Sulphuric acid, 8, II	UN 2796 SULPHURIC ACID, 8, II	UN 2796 SULPHURIC ACID, 8, II
14.3. Transport hazard class(es)				
8	8	8	8	8
				
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

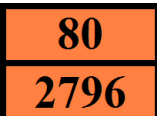
Classification code (ADR) : C1
Limited quantities (ADR) : 1I
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001, IBC02
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T8
Portable tank and bulk container special provisions (ADR) : TP2
Tank code (ADR) : L4BN
Tank special provisions (ADR) : TU42
Vehicle for tank carriage : AT
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 80

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Orange plates : 

Tunnel restriction code (ADR) : E
EAC code : 2R

Transport by sea

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
IBC special provisions (IMDG) : B20
Tank instructions (IMDG) : T8
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : B
Segregation (IMDG) : SGG1A, SG36, SG49
Properties and observations (IMDG) : Colourless liquid, mixture not exceeding 1.405 relative density. Highly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.

Air transport

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y840
PCA limited quantity max net quantity (IATA) : 0.5L
PCA packing instructions (IATA) : 851
PCA max net quantity (IATA) : 1L
CAO packing instructions (IATA) : 855
CAO max net quantity (IATA) : 30L
ERG code (IATA) : 8L

Inland waterway transport

Classification code (ADN) : C1
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 0

Rail transport

Classification code (RID) : C1
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001, IBC02
Mixed packing provisions (RID) : MP15
Portable tank and bulk container instructions (RID) : T8
Portable tank and bulk container special provisions (RID) : TP2
Tank codes for RID tanks (RID) : L4BN
Special provisions for RID tanks (RID) : TU42
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE6
Hazard identification number (RID) : 80

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

Not applicable

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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 substance(s) listed on REACH Annex XVII (Restriction Conditions)

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 substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

ANNEX I RESTRICTED EXPLOSIVES PRECURSORS

List of substances which shall not be made available to, or introduced, possessed or used by, members of the general public, whether on their own or in mixtures or substances that include those substances, unless the concentration is equal to or lower than the limit values set out in column 2, and for which suspicious transactions and significant disappearances and thefts are to be reported to the relevant national contact point within 24 hours.

Name	CAS-No.	Limit value	Upper limit value for licensing under Article 5(3)	Combined Nomenclature (CN) code for a separate chemically defined compound meeting the requirements of Note 1 to Chapter 28 or 29 of the CN, respectively	Combined Nomenclature code for mixture without constituents which would determine classification under another CN code
Sulphuric acid	7664-93-9	15 % w/w	40 % w/w	ex 2807 00 00	ex 3824 99 96

Please see https://home-affairs.ec.europa.eu/policies/internal-security/counter-terrorism-and-radicalisation/protection/legislation-chemicals-used-home-made-explosives_en

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	Threshold	Annex
Sulphuric acid		7664-93-9	2807 00 00	Category 3		Annex I

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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 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category	: A(4) - low hazard for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen	: sulphuric acid ... % is 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

Class for fire hazard	: Class II-1
Store unit	: 5 liter
Classification remarks	: R10 <H226;H302;H314;H335;H336>; 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

Switzerland

Storage class (LK)	: LK 3 - Flammable liquids
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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

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Abbreviations and acronyms:	
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
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. 3	Flammable liquids, Category 3
H226	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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

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Full text of H- and EUH-statements:

Skin Corr. 1A	Skin corrosion/irritation, Category 1, Sub-Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis

The classification complies with : ATP 12

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.