

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Issue date: 8/26/2022

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

1.1. Product identifier

Product form : Mixture
Trade name : 16% Formaldehyde
Product code : 190303, 190318
Product group : Trade product

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

1.2.1. Relevant identified uses

No additional information available

1.2.2. Uses advised against

Restrictions on use : None known

1.3. Details of the supplier of the safety data sheet

Covaris, LLC
14 Gill St., Unit H,
01801 Woborn – MA
USA
T +1 (781) 932-3959

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

Country	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145 Westmead	13 11 26	
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
New Zealand	National Poisons Centre	PO Box 56 9054 Dunedin	0800 764 766	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	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]

Acute toxicity (oral), Category 4 H302
Acute toxicity (dermal), Category 4 H312
Acute toxicity (inhalation:vapour) Category 4 H332
Skin corrosion/irritation, Category 2 H315
Serious eye damage/eye irritation, Category 2 H319
Skin sensitisation, Category 1 H317
Germ cell mutagenicity, Category 2 H341
Carcinogenicity, Category 1B H350

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

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

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Contains

: Formaldehyde

Hazard statements (CLP)

: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H341 - Suspected of causing genetic defects.
H350 - May cause cancer.

Precautionary statements (CLP)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing mist, spray, vapours.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective clothing, protective gloves, eye protection.
P301+P312 - IF SWALLOWED: Call a doctor if you feel unwell.
P330 - Rinse mouth.
P302+P352 - IF ON SKIN: Wash with plenty of water.
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.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and container to an approved waste disposal plant.

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 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Formaldehyde substance with a Community workplace exposure limit	CAS-No.: 50-00-0 EC-No.: 200-001-8 EC Index-No.: 605-001-00-5	16	Acute Tox. 3 (Oral), H301 (ATE=100 mg/kg bodyweight) Acute Tox. 3 (Dermal), H311 (ATE=300 mg/kg bodyweight) Acute Tox. 3 (Inhalation), H331 (ATE=700 ppmv/4h) Acute Tox. 3 (Inhalation:gas), H331 (ATE=700 ppmv/4h) Skin Corr. 1B, H314 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350

Specific concentration limits:		
Name	Product identifier	Specific concentration limits
Formaldehyde	CAS-No.: 50-00-0 EC-No.: 200-001-8 EC Index-No.: 605-001-00-5	(0.2 ≤C ≤ 100) Skin Sens. 1, H317 (5 ≤C < 25) Skin Irrit. 2, H315 (5 ≤C < 25) Eye Irrit. 2, H319 (5 ≤C ≤ 100) STOT SE 3, H335 (25 ≤C ≤ 100) Skin Corr. 1B, 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	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
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	: May cause severe burns. Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed. May cause an allergic skin reaction. May cause cancer.
Chronic symptoms	: May cause cancer.

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

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

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.

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.
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. Wear personal protective equipment.
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

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

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

16% Formaldehyde	
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Formaldehyde
BOEL TWA	0.37 mg/m ³ 0.62 mg/m ³ (Limit value for the health care, funeral and embalming sectors until 11 July 2024)
BOEL TWA [ppm]	0.3 ppm 0.5 ppm (Limit value for the health care, funeral and embalming sectors until 11 July 2024)

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

16% Formaldehyde	
BOEL STEL	0.74 mg/m ³
BOEL STEL [ppm]	0.6 ppm
Notes	Dermal sensitisation (The substance can cause sensitisation of the skin)
Regulatory reference	DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC)
Croatia - Occupational Exposure Limits	
Local name	Formaldehid
GVI (OEL TWA) [1]	0.37 mg/m ³ 0.62 mg/m ³ Granična vrijednost za zdravstveni i pogrebni sektor te sektor balzamiranje do 11. srpnja 2024
GVI (OEL TWA) [2]	0.3 ppm 0.5 ppm Granična vrijednost za zdravstveni i pogrebni sektor te sektor balzamiranje do 11. srpnja 2024
KGVI (OEL STEL)	0.74 mg/m ³
KGVI (OEL STEL) [ppm]	0.6 ppm
Remark	Direktiva: 2019/983. Napomena: Alergen koža (tvar koja može izazvati alergijsku reakciju na koži (H317)), Karc 1B
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Formaldehid (Methanal)
PEL (OEL TWA)	0.37 mg/m ³ (mimo oblast zdravotních služeb, pohřebnictví a balzamovacích služeb) 0.5 mg/m ³ (pro oblast zdravotních služeb, pohřebnictví a balzamovacích služeb)
PEL (OEL TWA) [ppm]	0.3 ppm (mimo oblast zdravotních služeb, pohřebnictví a balzamovacích služeb) 0.4 ppm (pro oblast zdravotních služeb, pohřebnictví a balzamovacích služeb)
NPK-P (OEL C)	0.74 mg/m ³
NPK-P (OEL C) [ppm]	0.59 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůže, K - karcinogen kategorie 1A a 1B (s větou H350, H350i), S - látka má senzibilizující účinek (s větou H317, H334).
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Formaldehyd
AGW (OEL TWA) [1]	0.37 mg/m ³
AGW (OEL TWA) [2]	0.3 ppm
Peak exposure limitation factor	2(l)
Remark	AGS - Ausschuss für Gefahrstoffe; Sh - Hautsensibilisierender Stoff; Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden; X - Krebserzeugender Stoff der Kat. 1A oder 1B oder krebserzeugende Tätigkeit oder Verfahren nach § 2 Absatz 3 Nr. 4 der Gefahrstoffverordnung – es ist zusätzlich § 10 GefStoffV zu beachten
Regulatory reference	TRGS900
Netherlands - Occupational Exposure Limits	
Local name	Formaldehyde
TGG-8u (OEL TWA)	0.15 mg/m ³ Sensibilisatie van de huid

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

16% Formaldehyde	
TGG-15min (OEL STEL)	0.5 mg/m ³
Remark	Kankerverwekkende stof
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Formaldehyd
NDS (OEL TWA)	0.37 mg/m ³
NDSch (OEL STEL)	0.74 mg/m ³
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową). Substancja może mieć działanie uczulające na skórę.
Regulatory reference	Dz. U. 2020 poz. 61
Slovakia - Occupational Exposure Limits	
Local name	Formaldehyd (metanál)
NPHV (OEL TWA) [1]	0.37 mg/m ³ (TSH)
NPHV (OEL TWA) [2]	0.3 ppm (TSH)
NPHV (OEL STEL)	0.74 mg/m ³ (TSH)
NPHV (OEL STEL) [ppm]	0.6 ppm (TSH)
Remark	Kategória karcinogénov 1B – Pravdepodobný karcinogén; S – senzibilizujúce účinky majú látky, ktoré spôsobujú oveľa vyšší výskyt precitlivenosti alergického typu, ako je bežný. Pri práci s nimi je potrebná osobitná opatnosť. Dodržiavanie technických smerných hodnôt nezaručuje, že nevzniknú u vnímavých osôb alergické reakcie (Látka môže spôsobiť senzibilizáciu kože)
Regulatory reference	Nariadenie vlády č. 356/2006 Z. z. (235/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	formaldehyd
OEL TWA	0.37 mg/m ³ 0.62 mg/m ³
OEL TWA [ppm]	0.3 ppm 0.5 ppm
OEL STEL	0.74 mg/m ³
OEL STEL [ppm]	0.6 ppm
Remark	EU, K (Lastnost lažjega prehajanja snovi v organizem skozi kožo), SK (Snov lahko povzroči preobčutljivost kože)
Regulatory reference	Uradni list RS, št. 79/2019 z dne 24.12.2019
Sweden - Occupational Exposure Limits	
Local name	Formaldehyd
NGV (OEL TWA)	0.37 mg/m ³
NGV (OEL TWA) [ppm]	0.3 ppm
KTV (OEL STEL)	0.74 mg/m ³
KTV (OEL STEL) [ppm]	0.6 ppm

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

16% Formaldehyde	
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); 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); S (Ämnet är sensibiliserande. Sensibiliserande ämnen kan ge allergi eller annan överkänslighet. Överkänslighetsbesvären drabbar främst huden eller andningsorganen. Överkänslighet innebär att man reagerar vid kontakt med ämnen som normalt inte ger besvär. Allergi är en undergrupp av överkänslighet som orsakas av reaktioner i kroppens immunsystem. Särskilt låga gränsvärden har fastställts för ämnen med mer uttalat luftvägssensibiliserande egenskaper. Några ämnen med starkt sensibiliserande egenskaper får endast hanteras efter tillstånd från Arbetsmiljöverket, se föreskrifterna om kemiska arbetsmiljörisker. Dessa ämnen har inga gränsvärden men i vissa fall riktvärden)
Regulatory reference	Hygieniska gränsvärden (AFS 2020:6)
United Kingdom - Occupational Exposure Limits	
Local name	Formaldehyde
WEL TWA (OEL TWA) [1]	2.5 mg/m ³
WEL TWA (OEL TWA) [2]	2 ppm
WEL STEL (OEL STEL)	2.5 mg/m ³
WEL STEL (OEL STEL) [ppm]	2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Switzerland - Occupational Exposure Limits	
Local name	Formaldéhyde / Formaldehyd
MAK (OEL TWA) [1]	0.37 mg/m ³
MAK (OEL TWA) [2]	0.3 ppm
KZGW (OEL STEL)	0.74 mg/m ³
KZGW (OEL STEL) [ppm]	0.6 ppm
Critical toxicity	Yeux / Auge
Notation	S, C1 [#] _B , SS _C / S, C1 [#] _B , SS _C
Remark	HSE, NIOSH, DFG, OSHA
Regulatory reference	www.suva.ch, 28.03.2022
USA - ACGIH - Occupational Exposure Limits	
Local name	Formaldehyde
ACGIH OEL TWA [ppm]	0.1 ppm
ACGIH OEL STEL [ppm]	0.3 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; URT cancer. Notations: DSEN; RSEN; A1 (Confirmed Human Carcinogen)
Regulatory reference	ACGIH 2022
Formaldehyde (50-00-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Formaldehyde

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Formaldehyde (50-00-0)	
IOEL TWA	0.37 mg/m ³ (BOEL) 0.62 mg/m ³ (Limit value for the health care, funeral and embalming sectors until 11 July 2024)
IOEL STEL	0.74 mg/m ³ (BOEL)
IOEL STEL [ppm]	0.6 ppm (BOEL)
Remark	Dermal sensitisation
Regulatory reference	DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Formaldehyde
BOEL TWA	0.37 mg/m ³ 0.62 mg/m ³ (Limit value for the health care, funeral and embalming sectors until 11 July 2024)
BOEL TWA [ppm]	0.3 ppm 0.5 ppm (Limit value for the health care, funeral and embalming sectors until 11 July 2024)
BOEL STEL	0.74 mg/m ³
BOEL STEL [ppm]	0.6 ppm
Notes	Dermal sensitisation (The substance can cause sensitisation of the skin)
Regulatory reference	DIRECTIVE (EU) 2019/983 (amending Directive 2004/37/EC)
Austria - Occupational Exposure Limits	
Local name	Formaldehyd
MAK (OEL TWA)	0.37 mg/m ³
MAK (OEL TWA) [ppm]	0.3 ppm
MAK (OEL STEL)	0.74 mg/m ³ (Mow)
MAK (OEL STEL) [ppm]	0.6 ppm (Mow)
Remark	Sh. Krebserzeugend: III A2
Regulatory reference	BGBI. II Nr. 238/2018
Croatia - Occupational Exposure Limits	
Local name	Formaldehid
GVI (OEL TWA) [1]	0.37 mg/m ³ 0.62 mg/m ³ Granična vrijednost za zdravstveni i pogrebni sektor te sektor balzamiranje do 11. srpnja 2024
GVI (OEL TWA) [2]	0.3 ppm 0.5 ppm Granična vrijednost za zdravstveni i pogrebni sektor te sektor balzamiranje do 11. srpnja 2024
KGVI (OEL STEL)	0.74 mg/m ³
KGVI (OEL STEL) [ppm]	0.6 ppm
Remark	Direktiva: 2019/983. Napomena: Alergen koža (tvar koja može izazvati alergijsku reakciju na koži (H317)), Karc 1B
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
Czech Republic - Occupational Exposure Limits	
Local name	Formaldehyd (Methanal)

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Formaldehyde (50-00-0)	
PEL (OEL TWA)	0.37 mg/m ³ (mimo oblast zdravotních služeb, pohřebnictví a balzamovacích služeb) 0.5 mg/m ³ (pro oblast zdravotních služeb, pohřebnictví a balzamovacích služeb)
PEL (OEL TWA) [ppm]	0.3 ppm (mimo oblast zdravotních služeb, pohřebnictví a balzamovacích služeb) 0.4 ppm (pro oblast zdravotních služeb, pohřebnictví a balzamovacích služeb)
NPK-P (OEL C)	0.74 mg/m ³
NPK-P (OEL C) [ppm]	0.59 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), respektive kůže, K - karcinogen kategorie 1A a 1B (s větou H350, H350i), S - látka má senzibilizující účinek (s větou H317, H334).
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Formaldehyd
AGW (OEL TWA) [1]	0.37 mg/m ³
AGW (OEL TWA) [2]	0.3 ppm
Peak exposure limitation factor	2(I)
Remark	AGS - Ausschuss für Gefahrstoffe; Sh - Hautsensibilisierender Stoff; Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden; X - Krebserzeugender Stoff der Kat. 1A oder 1B oder krebserzeugende Tätigkeit oder Verfahren nach § 2 Absatz 3 Nr. 4 der Gefahrstoffverordnung – es ist zusätzlich § 10 GefStoffV zu beachten
Regulatory reference	TRGS900
Netherlands - Occupational Exposure Limits	
Local name	Formaldehyde
TGG-8u (OEL TWA)	0.15 mg/m ³ Sensibilisatie van de huid
TGG-15min (OEL STEL)	0.5 mg/m ³
Remark	Kankerverwekkende stof
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	Formaldehyd
NDS (OEL TWA)	0.37 mg/m ³
NDSch (OEL STEL)	0.74 mg/m ³
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową). Substancja może mieć działanie uczulające na skórę.
Regulatory reference	Dz. U. 2020 poz. 61
Slovakia - Occupational Exposure Limits	
Local name	Formaldehyd (metanál)
NPHV (OEL TWA) [1]	0.37 mg/m ³ (TSH)
NPHV (OEL TWA) [2]	0.3 ppm (TSH)
NPHV (OEL STEL)	0.74 mg/m ³ (TSH)
NPHV (OEL STEL) [ppm]	0.6 ppm (TSH)

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Formaldehyde (50-00-0)	
Remark	Kategória karcinogénov 1B – Pravdepodobný karcinogén; S – senzibilizujúce účinky majú látky, ktoré spôsobujú oveľa vyšší výskyt precitlivenosti alergického typu, ako je bežný. Pri práci s nimi je potrebná osobitná opatrnosť. Dodržiavanie technických smerných hodnôt nezaručuje, že nevzniknú u vnímavých osôb alergické reakcie (Látka môže spôsobiť senzibilizáciu kože)
Regulatory reference	Nariadenie vlády č. 356/2006 Z. z. (235/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	formaldehyd
OEL TWA	0.37 mg/m ³ 0.62 mg/m ³
OEL TWA [ppm]	0.3 ppm 0.5 ppm
OEL STEL	0.74 mg/m ³
OEL STEL [ppm]	0.6 ppm
Remark	EU, K (Lastnosť lažjega prehajanja snovi v organizem skozi kožo), SK (Snov lahko povzroči preobčutljivost kože)
Regulatory reference	Uradni list RS, št. 79/2019 z dne 24.12.2019
Sweden - Occupational Exposure Limits	
Local name	Formaldehyd
NGV (OEL TWA)	0.37 mg/m ³
NGV (OEL TWA) [ppm]	0.3 ppm
KTV (OEL STEL)	0.74 mg/m ³
KTV (OEL STEL) [ppm]	0.6 ppm
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker); 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); S (Ämnet är sensibiliserande. Sensibiliserande ämnen kan ge allergi eller annan överkänslighet. Överkänslighetsbesvären drabbar främst huden eller andningsorganen. Överkänslighet innebär att man reagerar vid kontakt med ämnen som normalt inte ger besvär. Allergi är en undergrupp av överkänslighet som orsakas av reaktioner i kroppens immunsystem. Särskilt låga gränsvärden har fastställts för ämnen med mer uttalat luftvägssensibiliserande egenskaper. Några ämnen med starkt sensibiliserande egenskaper får endast hanteras efter tillstånd från Arbetsmiljöverket, se föreskrifterna om kemiska arbetsmiljörisker. Dessa ämnen har inga gränsvärden men i vissa fall riktvärden)
Regulatory reference	Hygieniska gränsvärden (AFS 2020:6)
United Kingdom - Occupational Exposure Limits	
Local name	Formaldehyde
WEL TWA (OEL TWA) [1]	2.5 mg/m ³
WEL TWA (OEL TWA) [2]	2 ppm
WEL STEL (OEL STEL)	2.5 mg/m ³
WEL STEL (OEL STEL) [ppm]	2 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Formaldehyde (50-00-0)	
Switzerland - Occupational Exposure Limits	
Local name	Formaldéhyde / Formaldehyd
MAK (OEL TWA) [1]	0.37 mg/m ³
MAK (OEL TWA) [2]	0.3 ppm
KZGW (OEL STEL)	0.74 mg/m ³
KZGW (OEL STEL) [ppm]	0.6 ppm
Critical toxicity	Yeux / Auge
Notation	S, C1 [#] _B , SS _C / S, C1 [#] _B , SS _C
Remark	HSE, NIOSH, DFG, OSHA
Regulatory reference	www.suva.ch, 28.03.2022
USA - ACGIH - Occupational Exposure Limits	
Local name	Formaldehyde
ACGIH OEL TWA [ppm]	0.1 ppm
ACGIH OEL STEL [ppm]	0.3 ppm
Remark (ACGIH)	TLV [®] Basis: URT & eye irr; URT cancer. Notations: DSEN; RSEN; A1 (Confirmed Human Carcinogen)
Regulatory reference	ACGIH 2022

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

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

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

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.
Appearance	: Clear, colorless liquid.
Odour	: Characteristic.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: > 93.33 °C
Flammability	: Not applicable
Explosive limits	: Not available
Lower explosion limit	: 3 vol %
Upper explosion limit	: 7 vol %
Flash point	: 62 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 2.3 – 2.7 kPa
Vapour pressure at 50°C	: Not available
Density	: Not available
Relative density	: 1.08 – 1.3
Relative vapour density at 20°C	: 1
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

Relative evaporation rate (butylacetate=1) : > 1 (≥ 0)

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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

None under recommended storage and handling conditions (see section 7).

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

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) : Harmful if swallowed.
Acute toxicity (dermal) : Harmful in contact with skin.
Acute toxicity (inhalation) : Harmful if inhaled.

16% Formaldehyde	
ATE CLP (oral)	625 mg/kg bodyweight
ATE CLP (dermal)	1875 mg/kg bodyweight
ATE CLP (vapours)	18.75 mg/l/4h

Formaldehyde (50-00-0)	
LD50 oral rat	460 mg/kg Source: ECHA
LD50 dermal rabbit	0.27 mg/kg Source: ChemIDPlus
LC50 Inhalation - Rat [ppm]	< 463 ppm Source: ECHA

Skin corrosion/irritation : Causes skin irritation.

Formaldehyde (50-00-0)	
pH	2.8 – 4

Serious eye damage/irritation : Causes serious eye irritation.

Formaldehyde (50-00-0)	
pH	2.8 – 4

Respiratory or skin sensitisation : May cause an allergic skin reaction.
Germ cell mutagenicity : Suspected of causing genetic defects.
Carcinogenicity : May cause cancer.

Formaldehyde (50-00-0)	
IARC group	1 - Carcinogenic to humans

Formaldehyde (50-00-0)	
Formaldehyde has local carcinogenic activity in experimental animals; there is evidence for a threshold effect for tumors involving cytotoxicity and regenerative cell proliferation as the mode of action. There is no evidence for systemic or local carcinogenic effects after oral exposure in rats. In dermal initiation/promotion studies formaldehyde did not initiate or promote skin tumorigenesis in mice. There is clear evidence from chronic inhalation studies in rats that formaldehyde causes tumors in the nasal cavity. The results from epidemiological studies are highly contested but may suggest an increased risk of cancer only at two tumor sites	nasopharyngeal cancers (NPCs) and leukaemias. The most recent review covering both relevant endpoints (Bachand et al 2010) concluded that summary risk estimates for NPCs were not elevated after excluding a single plant with an unexplained cluster of NPCs. Moreover, the most influential epidemiological study, i.e. the NCI industrial cohort study that includes this cluster plant (Hauptmann et al 2004) is unreliable regarding NPCs because of a missing robustness and an incomplete vital status follow-up (Marsh et al 2007a, Marsh et al 2007b, Marsh et al 2010). Bachand et al 2010 concluded about leukaemia risk: "By limiting analyses to stronger case-control and cohort study designs, considering the effects of smoking, these meta-analyses provided little support for a causal relationship between formaldehyde exposure and leukaemia." Furthermore, current analyses of the NCI cohort (Beane Freeman et al 2009a) did not confirm the statistically significant exposure-response relationships between formaldehyde exposure and leukaemia mortality reported before (Hauptmann et al 2003). The studies from 2009 up to 2015 did not strengthen an association between formaldehyde exposure and NPC or leukemia.

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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

Formaldehyde (50-00-0)	
LC50 - Fish [1]	6.7 mg/l Test organisms (species): <i>Morone saxatilis</i>
EC50 - Crustacea [1]	5.8 mg/l Test organisms (species): <i>Daphnia pulex</i>
EC50 72h - Algae [1]	3.48 mg/l Test organisms (species): <i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>)
EC50 72h - Algae [2]	4.89 mg/l Test organisms (species): <i>Desmodesmus subspicatus</i> (previous name: <i>Scenedesmus subspicatus</i>)
NOEC (chronic)	≥ 6.4 mg/l Test organisms (species): <i>Daphnia magna</i> Duration: '21 d'
NOEC chronic fish	≥ 48 mg/l Test organisms (species): <i>Oryzias latipes</i> Duration: '28 d'

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Formaldehyde (50-00-0)	
Partition coefficient n-octanol/water (Log Pow)	0.35 Source: ECHA

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

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878





SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
	NOT SUBJECT (Not subject to the provisions of IMDG but may be subject to provisions governing the transport of dangerous goods by other modes)			
14.1. UN number or ID number				
Not applicable	UN 3334	UN 3334	UN 3334	UN 3334
14.2. UN proper shipping name				
Not applicable	AVIATION REGULATED LIQUID, N.O.S. (Formaldehyde)	Aviation regulated liquid, n.o.s. (Formaldehyde)	Aviation Regulated Liquid, n.o.s. (Formaldehyde)	Aviation Regulated Liquid, n.o.s. (Formaldehyde)
Transport document description				
Not applicable	UN 3334 AVIATION REGULATED LIQUID, N.O.S. (Formaldehyde), 9, III	UN 3334 Aviation regulated liquid, n.o.s. (Formaldehyde), 9, III	UN 3334 Aviation Regulated Liquid, n.o.s. (Formaldehyde), 9, III	UN 3334 Aviation Regulated Liquid, n.o.s. (Formaldehyde), 9, III
14.3. Transport hazard class(es)				
Not applicable	9	9	9	9
Not applicable				
14.4. Packing group				
Not applicable	III	III	III	III
14.5. Environmental hazards				
Not applicable	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

Not applicable

Transport by sea

Special provisions (IMDG)

: 960

Stowage category (IMDG)

: None

Properties and observations (IMDG)

: Not subject to the provisions of this Code but may be subject to provisions governing the transport of dangerous goods by other modes.

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964
PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provisions (IATA)	: A27
ERG code (IATA)	: 9A

Inland waterway transport

No data available

Rail transport

No data available

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 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 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 no 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)

15.1.2. National regulations

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

France

Occupational diseases	
Code	Description
RG 43	Diseases caused by formaldehyde and its polymers
RG 43 BIS	Cancerous conditions caused by formaldehyde
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 1 Entry 1. Paragraph 1) Coated and uncoated wood-based materials (chipboard, blockboard, veneer panels, and fibreboard) may not be placed on the market if the equalizing concentration of formaldehyde in the air in a test room exceeds 0.1 ml / cbm (ppm). Paragraph 2) Furniture that contains wood-based materials that do not meet the requirements of Paragraph 1 may not be placed on the market. Paragraph 1 is also deemed to have been fulfilled if the furniture complies with the equalization concentration specified in paragraph 1 during a whole-body test. Paragraph 3) Detergents, cleaning agents and care products with a mass content of more than 0.2% formaldehyde may not be placed on the market. This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen	: Formaldehyde 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 III-1
Store unit	: 50 liter
Classification remarks	: Flammable according to the Danish Ministry of Justice; 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 Pregnant/breastfeeding women working with the product must not be in direct contact with the product The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

Switzerland

Storage class (LK)	: LK 6.1 - Toxic materials
Chemicals Ordinance (SR 813.11)	: Group 1

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Carc. 1B	Carcinogenicity, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
Muta. 2	Germ cell mutagenicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Acute Tox. 4 (Oral)	H302	Calculation method
Acute Tox. 4 (Dermal)	H312	Calculation method
Acute Tox. 4 (Inhalation:vapour)	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 1B	H350	Calculation method
STOT SE 3	H335	Calculation method

Safety Data Sheet (SDS), EU

16% Formaldehyde

Safety Data Sheet

SDS EU format according to COMMISSION REGULATION (EU) 2020/878

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.