

Formic acid %0.1 in Acetonitrile

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 08/05/2017

Doc No: SDS-923.038/0



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

1.1. Product identifier

Product form : Mixture
Product name : Acetonitrile with 0.1% Formic acid
Type of product : Solution

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemical

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB GmbH
Bahnhofstrasse 10, D-97877
Wertheim - Germany
T +49 93 42 912 355 - F +49 93 42 912 357
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Dermal) H312
Acute Tox. 4 (Inhalation:vapour) H332
Eye Irrit. 2 H319

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. Harmful if inhaled. Harmful if swallowed. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP) :



Signal word (CLP) :

Danger

Hazardous ingredients :

Acetonitrile; Formic acid ... %

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapour.
H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.
H319 - Causes serious eye irritation.

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 - Ground/bond container and receiving equipment.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and 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.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

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2.3. Other hazards

No additional information available

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]
Acetonitrile	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3	50 - 100	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation:vapour), H332 Eye Irrit. 2, H319
Formic acid ... %	(CAS-No.) 64-18-6 (EC-No.) 200-579-1 (EC Index-No.) 607-001-00-0 (REACH-no) 01-2119491174-37	0.1 - 1	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Formic acid ... %	(CAS-No.) 64-18-6 (EC-No.) 200-579-1 (EC Index-No.) 607-001-00-0 (REACH-no) 01-2119491174-37	(2 =<C < 10) Skin Irrit. 2, H315 (2 =<C < 10) Eye Irrit. 2, H319 (10 =<C < 90) Skin Corr. 1B, H314 (C >= 90) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a poison center or a doctor if you feel unwell.
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. Remove/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	: Rinse mouth. 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	: Highly 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, eyes and clothing. Avoid breathing dust/fume/gas/mist/vapours/spray.
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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 : 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. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area. Avoid breathing 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

Acetonitrile (75-05-8)		
EU	Local name	Acetonitrile
EU	IOELV TWA (mg/m ³)	70 mg/m ³ (Acetonitrile; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	40 ppm (Acetonitrile; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	Notes	skin
Austria	Local name	Acetonitril
Austria	MAK (mg/m ³)	70 mg/m ³
Austria	MAK (ppm)	40 ppm
Austria	MAK Short time value (mg/m ³)	280 mg/m ³
Austria	MAK Short time value (ppm)	160 ppm
Austria	Remark (AT)	H
Belgium	Local name	Acétonitrile # Acetonitril
Belgium	Limit value (mg/m ³)	34 mg/m ³ (Acétonitrile; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	20 ppm (Acétonitrile; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Remark (BE)	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. # 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.
Bulgaria	Local name	Ацетонитрил

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Acetonitrile (75-05-8)		
Bulgaria	OEL TWA (mg/m ³)	70 mg/m ³
Bulgaria	OEL TWA (ppm)	40 ppm
Bulgaria	Notes	Кожа (възможна е значителна резорбция чрез кожата); • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Acetonitril
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	68 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	40 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	102 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	60 ppm
Croatia	Naznake (HR)	K (Skin): (naznaka da tvar može štetno djelovati kroz kožu); F (lako zapaljivo); EU** (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2006/15/ EC (druga lista)); Xn (Štetno)
Czech Republic	Local name	Acetonitril
Czech Republic	Expoziční limity (PEL) (mg/m ³)	70 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	41.7 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	100 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	60 ppm
Czech Republic	Remark (CZ)	D
Denmark	Local name	Acetonitril
Denmark	Grænseværdie (langvarig) (mg/m ³)	70 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	40 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Estonia	Local name	Atsetonitriil (etaannitriil, metüültsüaniid)
Estonia	OEL TWA (mg/m ³)	70 mg/m ³
Estonia	OEL TWA (ppm)	40 ppm
Finland	Local name	Asetonitriili
Finland	HTP-arvo (8h) (mg/m ³)	34 mg/m ³
Finland	HTP-arvo (8h) (ppm)	20 ppm
Finland	HTP-arvo (15 min)	68 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	40 ppm
Finland	Huomautus (FI)	iho
France	Local name	Acétonitrile
France	VME (mg/m ³)	70 mg/m ³ (Acétonitrile; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	40 ppm (Acétonitrile; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	Note (FR)	Valeurs réglementaires contraignantes; risque de pénétration percutanée
Germany	Local name	Acetonitril
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	34 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	20 ppm
Germany	Remark (TRGS 900)	DFG,EU,H,Y
Greece	OEL TWA (mg/m ³)	70 mg/m ³
Greece	OEL TWA (ppm)	40 ppm
Greece	OEL STEL (mg/m ³)	105 mg/m ³
Greece	OEL STEL (ppm)	60 ppm

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Acetonitrile (75-05-8)		
Hungary	Local name	ACETONITRIL
Hungary	AK-érték	70 mg/m ³
Hungary	Megjegyzések (HU)	b, i; EU2
Ireland	Local name	Acetonitrile
Ireland	OEL (8 hours ref) (mg/m ³)	70 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	40 ppm
Ireland	Notes (IE)	Sk, IOELV
Italy	Local name	Acetonitrile
Italy	OEL TWA (mg/m ³)	35 mg/m ³
Italy	OEL TWA (ppm)	20 ppm
Italy	Notes	pelle
Latvia	Local name	Acetonitrils (cianometāns)
Latvia	OEL TWA (mg/m ³)	70 mg/m ³
Latvia	OEL TWA (ppm)	40 ppm
Lithuania	Local name	Acetonitrilas
Lithuania	IPRV (mg/m ³)	70 mg/m ³
Lithuania	IPRV (ppm)	40 ppm
Lithuania	Remark (LT)	O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Luxembourg	Local name	Acétonitrile
Luxembourg	OEL TWA (mg/m ³)	70 mg/m ³
Luxembourg	OEL TWA (ppm)	40 ppm
Malta	Local name	Acetonitrile
Malta	OEL TWA (mg/m ³)	70 mg/m ³
Malta	OEL TWA (ppm)	40 ppm
Netherlands	Local name	Acetonitril
Netherlands	Grenswaarde TGG 8H (mg/m ³)	34 mg/m ³ (Acetonitril; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	20 ppm (Acetonitril; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Poland	Local name	Acetonitryl
Poland	NDS (mg/m ³)	70 mg/m ³
Poland	NDSch (mg/m ³)	140 mg/m ³
Portugal	Local name	Acetonitrilo
Portugal	OEL TWA (ppm)	20 ppm
Romania	Local name	Acetonitril
Romania	OEL TWA (mg/m ³)	70 mg/m ³
Romania	OEL TWA (ppm)	40 ppm
Slovakia	Local name	Acetonitril (etánnitril, nitril kyseliny etánovej, metylkyanid)
Slovakia	NPHV (priemerná) (mg/m ³)	70 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	40 ppm
Slovakia	Upozornenie (SK)	K - znamená, že faktor môže byť ľahko absorbovaný kožou
Slovenia	Local name	acetonitr (cianometan)
Slovenia	OEL TWA (mg/m ³)	70 mg/m ³
Slovenia	OEL TWA (ppm)	40 ppm
Spain	Local name	Acetonitrilo

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Acetonitrile (75-05-8)		
Spain	VLA-ED (mg/m ³)	68 mg/m ³
Spain	VLA-ED (ppm)	40 ppm
Spain	Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Acetonitril
Sweden	nivågränsvärde (NVG) (mg/m ³)	50 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	30 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	100 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	60 ppm
Sweden	Anmärkning (SE)	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); V (Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
United Kingdom	Local name	Acetonitrile
United Kingdom	WEL TWA (mg/m ³)	68 mg/m ³ Acetonitrile; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	40 ppm Acetonitrile; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	102 mg/m ³ Acetonitrile; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	60 ppm Acetonitrile; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
Iceland	Local name	Asetónitríl
Iceland	OEL (8 hours ref) (mg/m ³)	70 mg/m ³
Iceland	OEL (8 hours ref) (ppm)	40 ppm
Iceland	Notes (IS)	H
Russian Federation	Local name	Ацетонитрил
Russian Federation	OEL Ceiling (mg/m ³)	10 mg/m ³
Russian Federation	Remark (RU)	3 класс опасности - опасное; п (пары и/или газы)
Norway	Local name	Acetonitril
Norway	Grenseverdier (AN) (mg/m ³)	50 mg/m ³
Norway	Grenseverdier (AN) (ppm)	30 ppm
Norway	Merknader (NO)	H (Kjemikalier som kan tas opp gjennom huden); E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Acetonitril
Switzerland	MAK (mg/m ³)	34 mg/m ³
Switzerland	MAK (ppm)	20 ppm
Switzerland	KZGW (mg/m ³)	68 mg/m ³

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Acetonitrile (75-05-8)		
Switzerland	KZGW (ppm)	40 ppm
Switzerland	Remark (CH)	H SS _C - UAW, Leber ^{KT AN} - INRS, NIOSH
Turkey	Local name	Asetonitril
Turkey	OEL TWA (mg/m ³)	70 mg/m ³
Turkey	OEL TWA (ppm)	40 ppm
Turkey	Comments	Deri
Australia	Local name	Acetonitrile
Australia	TWA (mg/m ³)	67 mg/m ³
Australia	TWA (ppm)	40 ppm
Australia	STEL (mg/m ³)	101 mg/m ³
Australia	STEL (ppm)	60 ppm
Australia	Remark (AU)	Sk - Absorption through the skin may be a significant source of exposure.
USA - ACGIH	Local name	Acetonitrile
USA - ACGIH	ACGIH TWA (ppm)	20 ppm (Acetonitrile; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	LRT irr
USA - OSHA	Local name	Acetonitrile
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	70 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	40 ppm
Formic acid ... % (64-18-6)		
EU	Local name	Formic acid
EU	IOELV TWA (mg/m ³)	9 mg/m ³ (Formic acid; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	5 ppm (Formic acid; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Austria	Local name	Ameisensäure
Austria	MAK (mg/m ³)	9 mg/m ³
Austria	MAK (ppm)	5 ppm
Austria	MAK Short time value (mg/m ³)	9 mg/m ³
Austria	MAK Short time value (ppm)	5 ppm
Belgium	Local name	Acide formique # Mierenzuur
Belgium	Limit value (mg/m ³)	9.5 mg/m ³ (Acide formique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Limit value (ppm)	5 ppm (Acide formique; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	19 mg/m ³ (Acide formique; Belgium; Short time value)
Belgium	Short time value (ppm)	10 ppm (Acide formique; Belgium; Short time value)
Bulgaria	Local name	Мравчена киселина
Bulgaria	OEL TWA (mg/m ³)	9 mg/m ³
Bulgaria	OEL TWA (ppm)	5 ppm
Bulgaria	Notes	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Mravlja kiselina, > 90%
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	9 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	5 ppm
Croatia	Naznake (HR)	EU** (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2006/15/ EC (druga lista)); C (nagrizajuće)
Czech Republic	Local name	Kyselina mravení
Czech Republic	Expoziční limity (PEL) (mg/m ³)	9 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	4.78 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	18 mg/m ³

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Formic acid ... % (64-18-6)		
Czech Republic	Expoziční limity (NPK-P) (ppm)	9.56 ppm
Denmark	Local name	Myresyre (Methansyre)
Denmark	Grænseværdie (langvarig) (mg/m ³)	9 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	5 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi)
Estonia	Local name	Metaanhape (sipelghape)
Estonia	OEL TWA (mg/m ³)	9 mg/m ³
Estonia	OEL TWA (ppm)	5 ppm
Finland	Local name	Muurahaishappo
Finland	HTP-arvo (8h) (mg/m ³)	5 mg/m ³
Finland	HTP-arvo (8h) (ppm)	3 ppm
Finland	HTP-arvo (15 min)	19 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	10 ppm
France	Local name	Acide formique
France	VME (mg/m ³)	9 mg/m ³ (Acide formique; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
France	VME (ppm)	5 ppm (Acide formique; France; Time-weighted average exposure limit 8 h; VRI: Valeur réglementaire indicative)
France	Note (FR)	Valeurs réglementaires indicatives
Germany	Local name	Ameisensäure
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	9.5 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	5 ppm
Germany	Remark (TRGS 900)	DFG,EU,Y
Greece	OEL TWA (mg/m ³)	9 mg/m ³
Greece	OEL TWA (ppm)	5 ppm
Hungary	Local name	HANGYASAV
Hungary	AK-érték	9 mg/m ³
Hungary	Megjegyzések (HU)	m; l.
Ireland	Local name	Formic acid
Ireland	OEL (8 hours ref) (mg/m ³)	9 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	5 ppm
Ireland	Notes (IE)	IOELV
Italy	Local name	Acido formico
Italy	OEL TWA (mg/m ³)	9 mg/m ³
Italy	OEL TWA (ppm)	5 ppm
Latvia	Local name	Skudrskābe (metānskābe)
Latvia	OEL TWA (mg/m ³)	9 mg/m ³
Latvia	OEL TWA (ppm)	5 ppm
Lithuania	Local name	Skruzdžių rūgštis
Lithuania	IPRV (mg/m ³)	9 mg/m ³
Lithuania	IPRV (ppm)	5 ppm
Luxembourg	Local name	Acide formique
Luxembourg	OEL TWA (mg/m ³)	9 mg/m ³
Luxembourg	OEL TWA (ppm)	5 ppm
Malta	Local name	Formic acid
Malta	OEL TWA (mg/m ³)	9 mg/m ³
Malta	OEL TWA (ppm)	5 ppm

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Formic acid ... % (64-18-6)		
Netherlands	Local name	Mierenzuur
Netherlands	Grenswaarde TGG 8H (mg/m ³)	9 mg/m ³
Netherlands	Grenswaarde TGG 15MIN (mg/m ³)	5 mg/m ³ (Mierenzuur; Netherlands; Short time value; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 15MIN (ppm)	2.6 ppm (Mierenzuur; Netherlands; Short time value; Public occupational exposure limit value)
Poland	Local name	Kwas mrówkowy
Poland	NDS (mg/m ³)	5 mg/m ³
Poland	NDSCh (mg/m ³)	15 mg/m ³
Portugal	Local name	Ácido fórmico
Portugal	OEL TWA (ppm)	5 ppm
Portugal	OEL STEL (ppm)	10 ppm
Romania	Local name	Acid formic
Romania	OEL TWA (mg/m ³)	9 mg/m ³
Romania	OEL TWA (ppm)	5 ppm
Slovakia	Local name	Kyselina mravčia (kyselina metánová)
Slovakia	NPHV (priemerná) (mg/m ³)	9 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovenia	Local name	mravljična kislina
Slovenia	OEL TWA (mg/m ³)	9 mg/m ³
Slovenia	OEL TWA (ppm)	5 ppm
Spain	Local name	Ácido fórmico
Spain	VLA-ED (mg/m ³)	9 mg/m ³
Spain	VLA-ED (ppm)	5 ppm
Spain	Notes	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país), 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: http://www.msssi.gob.es/ciudadanos/productos.do?tip o=plaguicidas Base de datos de productos fitosanitarios: http://www.magrama.gob.es/agricultura/pags/fitos/regi stro/fichas/pdf/Lista_sa.pdf)
Sweden	Local name	Myrsyra
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	3 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	9 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	5 ppm
Sweden	Anmärkning (SE)	V (Vägledande kortidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
United Kingdom	Local name	Formic acid
United Kingdom	WEL TWA (mg/m ³)	9.6 mg/m ³ Formic acid; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	5 ppm Formic acid; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)

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Formic acid ... % (64-18-6)		
Russian Federation	Local name	Метановая кислота+
Russian Federation	OEL Ceiling (mg/m ³)	1 mg/m ³
Russian Federation	Remark (RU)	2 класс опасности - высокоопасное; п (пары и/или газы); + (соединения, при работе с которыми требуется специальная защита кожи и глаз; символ проставлен вслед за наименованием вещества)
Norway	Local name	Maursyre
Norway	Grenseverdier (AN) (mg/m ³)	9 mg/m ³
Norway	Grenseverdier (AN) (ppm)	5 ppm
Norway	Merknader (NO)	E (EU har en veiledende grenseverdi for stoffet)
Switzerland	Local name	Ameisensäure
Switzerland	MAK (mg/m ³)	9.5 mg/m ³
Switzerland	MAK (ppm)	5 ppm
Switzerland	KZGW (mg/m ³)	19 mg/m ³
Switzerland	KZGW (ppm)	10 ppm
Switzerland	Remark (CH)	SS _C - Haut & Auge, OAW ^{KT AN} - NIOSH, OSHA
Turkey	Local name	Formik asit
Turkey	OEL TWA (mg/m ³)	9 mg/m ³
Turkey	OEL TWA (ppm)	5 ppm
Australia	Local name	Formic acid
Australia	TWA (mg/m ³)	9.4 mg/m ³
Australia	TWA (ppm)	5 ppm
Australia	STEL (mg/m ³)	19 mg/m ³
Australia	STEL (ppm)	10 ppm
USA - ACGIH	Local name	Formic acid
USA - ACGIH	ACGIH TWA (ppm)	5 ppm (Formic acid; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	ACGIH STEL (ppm)	10 ppm (Formic acid; USA; Short time value; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	URT, eye, & skin irr
USA - OSHA	Local name	Formic acid
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	9 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	5 ppm

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Gloves. Safety glasses.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection

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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
Appearance	: Liquid.
Colour	: Colourless.
Odour	: Sweet odour. Aromatic odour. Ether-like odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: ≈ -45.7 °C
Freezing point	: No data available
Boiling point	: ≈ 81.6 °C (1013 hPa)
Flash point	: ≈ 2 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: ≈ 97 hPa (20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: ≈ 786 kg/m ³
Solubility	: Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in methylacetate. Soluble in dichloroethane. Soluble in tetrachloromethane. Soluble in tetrachloroethene. Soluble in methanol. Soluble in ethylacetate. Soluble in oils/fats.
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	: 3.0 - 17 %(V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly 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.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:vapour: Harmful if inhaled.

ATE CLP (oral)	500 mg/kg bodyweight
ATE CLP (vapours)	11 mg/l/4h

Acetonitrile (75-05-8)	
LD50 oral rat	> 1327 mg/kg (Rat)
LC50 inhalation rat (mg/l)	27 mg/l/4h (Rat)
LC50 inhalation rat (ppm)	16000 ppm/4h (Rat)

Formic acid ... % (64-18-6)	
LD50 oral rat	730 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
LD50 oral	> 730 mg/kg bodyweight
LC50 inhalation rat (Dust/Mist - mg/l/4h)	7400 mg/l

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

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.

Acetonitrile (75-05-8)	
LC50 fish 1	1640 mg/l (LC50; Other; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 1000 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Semi-static system; Fresh water; Experimental value)
Threshold limit algae 1	9696 mg/l (EC50; ISO 10253; 72 h; Phaeodactylum; Static system; Salt water; Experimental value)
Threshold limit algae 2	> 1000 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

Formic acid ... % (64-18-6)	
LC50 fish 1	130 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Danio rerio; Static system; Fresh water; Read-across)
EC50 Daphnia 1	365 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia sp.; Static system; Fresh water; Read-across)
EC50 other aquatic organisms 1	365 mg/l waterflea
EC50 other aquatic organisms 2	26.9 mg/l
Threshold limit algae 1	1240 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)

12.2. Persistence and degradability

Acetonitrile (75-05-8)	
Persistence and degradability	Readily biodegradable in water. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	0.17 g O ₂ /g substance
ThOD	3.12 g O ₂ /g substance

Formic acid ... % (64-18-6)	
Persistence and degradability	Readily biodegradable in water. Highly mobile in soil.

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12.3. Bioaccumulative potential

Acetonitrile (75-05-8)	
BCF other aquatic organisms 1	3.162 (BCF; BCFWIN)
Log Pow	0.29 (Weight of evidence approach; Equivalent or similar to OECD 107; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Formic acid ... % (64-18-6)	
Log Pow	-2.1 (Experimental value; EU Method A.8: Partition Coefficient; 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

Acetonitrile (75-05-8)	
Surface tension	0.029 N/m (20 °C)

Formic acid ... % (64-18-6)	
Log Koc	Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC); <17.8; Experimental value; GLP; log Koc; OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC); <1.25; Experimental value; GLP

12.5. Results of PBT and vPvB assessment

No additional information available

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 / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1648	1648	1648	1648	1648
14.2. UN proper shipping name				
ACETONITRILE	ACETONITRILE	Acetonitrile	ACETONITRILE	ACETONITRILE
Transport document description				
UN 1648 ACETONITRILE, 3, II, (D/E)	UN 1648 ACETONITRILE, 3, II (2°C c.c.)	UN 1648 Acetonitrile, 3, II	UN 1648 ACETONITRILE, 3, II	UN 1648 ACETONITRILE, 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : F1
Limited quantities (ADR) : 11
Excepted quantities (ADR) : E2

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Packing instructions (ADR) : P001, IBC02, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : LGBF

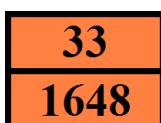
Vehicle for tank carriage : FL

Transport category (ADR) : 2

Special provisions for carriage - Operation (ADR) : S2, S20

Hazard identification number (Kemler No.) : 33

Orange plates :



Tunnel restriction code (ADR) : D/E

- Transport by sea

Limited quantities (IMDG) : 1 L

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P001

IBC packing instructions (IMDG) : IBC02

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

Stowage category (IMDG) : B

Stowage and handling (IMDG) : SW2

Flash point (IMDG) : 2°C c.c.

Properties and observations (IMDG) : Colourless, volatile liquid. Flashpoint: 2°C c.c. Explosive limits: 3% to 16% Miscible with water. When involved in a fire, evolves toxic cyanide fumes. Harmful if swallowed, by skin contact or by inhalation.

MFAG-No : 127

- Air transport

PCA Excepted quantities (IATA) : E2

PCA Limited quantities (IATA) : Y341

PCA limited quantity max net quantity (IATA) : 1L

PCA packing instructions (IATA) : 353

PCA max net quantity (IATA) : 5L

CAO packing instructions (IATA) : 364

CAO max net quantity (IATA) : 60L

ERG code (IATA) : 3L

- Inland waterway transport

Classification code (ADN) : F1

Limited quantities (ADN) : 1 L

Excepted quantities (ADN) : E2

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : F1

Limited quantities (RID) : 1L

Excepted quantities (RID) : E2

Packing instructions (RID) : P001, IBC02, R001

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Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP2
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

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

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

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : 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

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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose

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PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H225	Highly flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled

SDS ISOLAB

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