

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 25.08.2022

Version: 7.5

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

1.1 Product identifier

Trade name/designation:	Histological Fixative A.F.A. HISTONORM® Dyed with Eosine 225
Product No.:	81024
CAS No.:	not applicable
Index No.:	not applicable
EU REACH No.:	This product is a mixture. See section 3 for EU REACH registration numbers when applicable.
Other means of identification:	none

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

Relevant identified uses:	General chemical reagent
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1.3 Details of the supplier of the safety data sheet

United Kingdom

VWR International Ltd.

Street	Hunter Boulevard, Magna Park
Postal code/City	Lutterworth, LE17 4XN
Telephone	0800 22 33 44
Telefax	01455 55 85 86
E-mail (competent person)	SDS@avantorsciences.com

1.4 Emergency phone number

Telephone	+44 (0) 1270 502894 (CareChem24)
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SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 3	H226
Substance or mixture corrosive to metals, category 1	H290
Skin irritation, category 2	H315
Eye irritation, category 2	H319
Germ cell mutagenicity, category 2	H341
Carcinogenicity, category 1B	H350
Specific target organ toxicity (single exposure), category 2	H371
Specific target organ toxicity (single exposure), category 3, Respiratory tract irritation	H335
Acute toxicity, category 4, oral, dermal and inhalation	H302+H312+H332
Skin sensitization, category 1	H317

2.2 Label elements

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

Hazard pictograms



Signal word: Danger

Hazard statements	
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
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.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H371	May cause damage to organs.
H335	May cause respiratory irritation.

Precautionary statements	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
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.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/...

2.3 Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

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

Substance name	Concentration	Identifier	Hazard classes and hazard categories	ATE, SCL and/or M-factor
Ethanol absolute	40 - 50%	CAS No.: 64-17-5 EC No.: 200-578-6	Flam. Liq. 2 - H225 Eye Irrit. 2 - H319	none
Formaldehyde	10 - 15%	CAS No.: 50-00-0 EC No.: 200-001-8	Skin Corr. 1B - H314 Muta. 2 - H341 Carc. 1B - H350 STOT SE 3 - H335 Acute Tox. 3 - H301+H311+H331 Skin Sens. 1 - H317	STOT SE 3; H335: C ≥ 5 % Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 5 % ≤ C < 25 % Eye Irrit. 2; H319: 5 % ≤ C < 25 % Skin Sens. 1; H317: C ≥ 0,2 %
Acetic acid	5 - 10%	CAS No.: 64-19-7 EC No.: 200-580-7	Flam. Liq. 3 - H226 Skin Corr. 1A - H314	Skin Corr. 1A; H314: C ≥ 90 % Skin Corr. 1B; H314: 25 % ≤ C < 90 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 %
Methanol	3 - 5%	CAS No.: 67-56-1 EC No.: 200-659-6	Flam. Liq. 2 - H225 STOT SE 1 - H370 Acute Tox. 3 - H301+H311+H331	* STOT SE 1; H370: C ≥ 10 % STOT SE 2; H371: 3 % ≤ C < 10 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Call a POISON CENTRE/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately.
In case of skin reactions, consult a physician.

After eye contact:

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Self-protection of the first aider

First aider: Pay attention to self-protection!

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media**Suitable extinguishing media**

Water spray
ABC-powder
Carbon dioxide (CO₂)
Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated:
Pyrolysis products, toxic

5.3 Advice for firefighters

DO NOT fight fire when fire reaches explosives.
Special protective equipment for firefighters:
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses.
Do not inhale explosion and combustion gases.
Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.
Use water spray jet to protect personnel and to cool endangered containers.
In case of fire: Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of major fire and large quantities: Remove persons to safety.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

6.4 Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible:

Inhalation

skin contact

Eye contact

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: no data available

Storage class: no data available

Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value	Remark
Ethanol absolute	DNEL	EU	Worker, Dermal, long-term, systemic	343 mg/kg bw/day	
Ethanol absolute	DNEL	EU	Worker, Inhalation, long-term, systemic	950 mg/m ³	
Ethanol absolute	PNEC	EU	aquatic, freshwater	0.96 mg/l	Assessment factor: 10
Ethanol absolute	PNEC	EU	aquatic, marine water	0.79 mg/l	Assessment factor: 100
Ethanol absolute	PNEC	EU	predators, secondary poisoning	0.38 mg/kg food	Assessment factor: 90
Ethanol absolute	PNEC	EU	sediment, freshwater	3.6 mg/kg	sediment dw
Ethanol absolute	PNEC	EU	sediment, marine water	2.9 mg/kg	sediment dw
Ethanol absolute	PNEC	EU	Sewage treatment plant	580 mg/l	Assessment factor: 10
Ethanol absolute	PNEC	EU	soil	0.63 mg/kg	Assessment factor: 1000
Ethanol absolute	EH40/2005 - Fourth Edition 2020	UK	LTV	1920 mg/m ³ - 1000 ppm	
Formaldehyde	EH40/2005 - Fourth Edition 2020	UK	LTV	2,5 mg/m ³ - 2 ppm	
Formaldehyde	EH40/2005 - Fourth Edition 2020	UK	STV	2,5 mg/m ³ - 2 ppm	
Acetic acid	DNEL	EU	Worker, Inhalation, long-term, local	25 mg/m ³	
Acetic acid	DNEL	EU	Worker, Inhalation, short-term, local	25 mg/m ³	
Acetic acid	PNEC	EU	aquatic, freshwater	3.058 mg/l	
Acetic acid	PNEC	EU	aquatic, marine water	0.306 mg/l	
Acetic acid	PNEC	EU	sediment, freshwater	11.36 mg/kg	sediment dw
Acetic acid	PNEC	EU	sediment, marine water	1.136 mg/kg	sediment dw
Acetic acid	PNEC	EU	Sewage treatment plant	85 mg/l	
Acetic acid	PNEC	EU	soil	0.47 mg/kg	soil dw
Acetic acid	Directive 98/24/EC	EU	LTV	25 mg/m ³ - 10 ppm	
Acetic acid	Directive 98/24/EC	EU	STV	50 mg/m ³ - 20 ppm	
Acetic acid	EH40/2005 - Fourth Edition 2020	UK	LTV	25 mg/m ³ - 10 ppm	
Acetic acid	EH40/2005 - Fourth Edition 2020	UK	STV	50 mg/m ³ - 20 ppm	

Methanol	DNEL	EU	Worker, Dermal, long-term, systemic	20 mg/kg bw/day	
Methanol	DNEL	EU	Worker, Dermal, short-term, systemic	20 mg/kg bw/day	
Methanol	DNEL	EU	Worker, Inhalation, long-term, local	130 mg/m ³	
Methanol	DNEL	EU	Worker, Inhalation, long-term, systemic	130 mg/m ³	
Methanol	DNEL	EU	Worker, Inhalation, short-term, local	130 mg/m ³	
Methanol	DNEL	EU	Worker, Inhalation, short-term, systemic	130 mg/m ³	
Methanol	Directive 98/24/EC	EU	LTV	260 mg/m ³ - 200 ppm	Skin Designation
Methanol	EH40/2005 - Fourth Edition 2020	UK	LTV	266 mg/m ³ - 200 ppm	
Methanol	EH40/2005 - Fourth Edition 2020	UK	STV	333 mg/m ³ - 250 ppm	

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.2.2 Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms DIN EN 166

Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms EN ISO 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time::	> 120 min
Recommended glove articles:	VWR 112-1381

By long-term hand contact

Suitable material:	Butyl caoutchouc (butyl rubber)/FKM (fluoro rubber)
Thickness of the glove material:	0,70 mm
Breakthrough time::	> 480 min
Recommended glove articles:	VWR 112-3819

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus:	Full-/half-/quarter-face masks (DIN EN 136/140)
Recommendation:	VWR 111-0206
Suitable material:	ABEK2P3
Recommendation:	VWR 111-0059

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.2.3 *Environmental exposure controls*
no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Colour:	yellow
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	no data available
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	25 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Flammable liquid and vapour.
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	no data available
(l) Vapour density:	no data available
(m) Density:	0.91 g/cm ³ (20 °C)
(n) Solubility(ies)	
Water solubility:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable
(u) Particle characteristics:	does not apply to liquids

9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

no data available

10.7 Additional information

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

Ethanol absolute - LD50: > 6200 mg/kg - Rat - (Merck KGaA)

Formaldehyde - LD50: > 100 mg/kg - Rat - (CHP)

Formaldehyde - LD50: 640 mg/kg - Rat - (OECD 401)

Acetic acid - LD50: > 3310 mg/kg - Rat - (RTECS)

Methanol - LDLo: > 143 mg/kg - Human - (RTECS)

Methanol - LD50: 1187 - 2769 mg/kg - Rat - (IUCLID)

Methanol - LD50: 1187 - 2769 mg/kg - Rat - (OECD 401)

Acute dermal toxicity:

Ethanol absolute - LD50: < 20000 mg/kg - Rabbit - (CHP)

Formaldehyde - LD50: > 270 mg/kg - Rabbit - (CHP)

Acetic acid - LD50: > 1060 mg/kg - Rabbit - (IUCLID)

Methanol - LD50: > 15800 mg/kg - Rabbit

Methanol - LD50: 17100 mg/kg - Rabbit - (ECHA)

Acute inhalation toxicity:

Ethanol absolute - LC50: < 8000 mg/l (4 h) - Rat - (CHP)

Formaldehyde - LC50: > 0.578 mg/l (4 h) - Rat - (CHP)

Formaldehyde - LC50: < 463 ppm (4 h) - Rat - (ECHA)

Acetic acid - LC50: 11.4 mg/l - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

Methanol - TCLo: > 160 ppm (4 h) - Human

Methanol - LD50: 43700 mg/m³ (6 h) - Cat - (J Appl Toxicol 14(4): 309-313)

Irritant and corrosive effects

Primary irritation to the skin:

Causes skin irritation.

Irritation to eyes:

Causes serious eye irritation.

Irritation to respiratory tract:

May cause respiratory irritation.

Respiratory or skin sensitisation

In case of skin contact: sensitising

After inhalation: not sensitising

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

May cause cancer.

Germ cell mutagenicity

Suspected of causing genetic defects.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Ecotoxicity

Fish toxicity:

Ethanol absolute - LC50: 11200 mg/l (96 h) *Salmo gairdneri* - ECHA

Formaldehyde - LC50: 52.5 mg/l (96 h)

Acetic acid - LC50: mg/l (96 h) *Oncorhynchus mykiss* - OECD 203

Methanol - LC50: 24000 mg/l (96 h) - Poirier, S.H., M.L. Knuth, C.D. Anderson-Buchou, L.T. Brooke, A.R. Lima, and P.J. Shubat 1986. Comparative Toxicity of Methanol and N,N-Dimethylformamide to Freshwater Fish and Invertebrates. *Bull.Environ.Contam.Toxicol.* 37(4):615-621

Daphnia toxicity:

Ethanol absolute - LC50: 5012 mg/l (48 h) *Ceriodaphnia dubia* - ECHA

Ethanol absolute - NOEC: 9.6 mg/l (10 d) *Daphnia magna* - ECHA

Formaldehyde - LC50: 1070 mg/l (48 h)

Formaldehyde - EC50: 14 mg/l (48 h)

Acetic acid - LC50: 65 mg/l (48 h) - Janssen, C.R., E.Q. Espiritu, and G. Persoone 1993. Evaluation of the new ""Enzymatic Inhibition"" Criterion for Rapid Toxicity Testing with *Daphnia magna*

Acetic acid - EC50: mg/l (48 h) *Daphnia magna* - OECD 202

Methanol - LC50: 3290 mg/l (48 h) - Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares 2000. Acute Toxicity Test with *Daphnia magna*: An Alternative to Mammals in the Prescreening of Chemical Toxicity?. *Ecotoxicol.Environ.Saf.* 46(3):357-362

Methanol - EC50: 24500 mg/l (48 h) - Randall, T.L., and P.V. Knopp 1980. Detoxification of Specific Organic Substances by Wet Oxidation. *J.Water Pollut.Control Fed.* 52(8):2117-2130

Algae toxicity:

Ethanol absolute - EC50: 275 mg/l (72 h) *Chlorella vulgaris* - ECHA

Acetic acid - EC50: mg/l (72 h) - ISO 10253

Methanol - EC50: 22 000 mg/l (96 h) *Pseudokirchneriella subcapitata* - IUCLID

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

no data available

SECTION 14: Transport information

Land transport (ADR/RID)

14.1	UN-No.:	2920
14.2	Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (ACETIC ACID/ETHANOL)
14.3	Class(es):	8 (3)
	Classification code:	CF1
	Hazard label(s):	8+3
14.4	Packing group:	II
14.5	Environmental hazards:	No
14.6	Special precautions for user:	
	Hazard identification number (Kemler No.):	83
	tunnel restriction code:	D/E
		(Passage forbidden through tunnels of category D when carried in bulk or in tanks. Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

14.1	UN-No.:	2920
14.2	Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (ACETIC ACID/ETHANOL)
14.3	Class(es):	8 (3)

	Classification code:	
	Hazard label(s):	8+3
14.4	Packing group:	II
14.5	Environmental hazards:	No
	Marine pollutant:	No
14.6	Special precautions for user:	
	Segregation group:	1
	EmS-No.	F-E S-C
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
	not relevant	

Air transport (ICAO-TI / IATA-DGR)

14.1	UN-No.:	2920
14.2	Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (ACETIC ACID/ETHANOL)
14.3	Class(es):	8 (3)
	Classification code:	
	Hazard label(s):	8+3
14.4	Packing group:	II
14.5	Special precautions for user:	

SECTION 15: Regulatory information

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

EU legislation

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (Text with EEA relevance)
- 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 (Text with EEA relevance)
- Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (Text with EEA relevance)
- Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Use restriction according to REACH annex XVII:

- Number: 69 (Methanol)

National regulations

-

Water hazard class: no data available

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road

AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)

CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures

DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)

DNEL - Derived No Effect Level

Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)

IATA-DGR - International Air Transport Association-Dangerous Goods Regulations

ICAO-TI - International Civil Aviation Organization-Technical Instructions

IMDG - International Maritime Code for Dangerous Goods

KOSHA - Korea Occupational Safety and Health Agency

LTV - Long Term Value

NIOSH - National Institute for Occupational Safety and Health

OSHA - Occupational Safety & Health Administration

PBT - Persistent, Bioaccumulative and Toxic

PNEC - Predicted No Effect Concentration

RID - Regulation concerning the International Carriage of Dangerous Goods by Rail

STV - Short Term Value

SVHC - Substances of Very High Concern

vPvB - very Persistent, very Bioaccumulative

H225 - Highly flammable liquid and vapour.

H226 - Flammable liquid and vapour.

H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled.

H314 - Causes severe skin burns and eye damage.

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.

H370 - Causes damage to organs.

Training advice: Provide adequate information, instruction and training for operators.

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

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

Hazard statements	Hazard classes and hazard categories	Classification procedure
H226	Flam. Liq. 3	Data obtained by expert judgement.
H290	Met. Corr. 1	Data obtained by expert judgement.
H315	Skin Irrit. 2	Calculation method.
H319	Eye Irrit. 2	Calculation method.
H341	Muta. 2	Calculation method.
H350	Carc. 1B	Calculation method.
H371	STOT SE 2	Calculation method.
H335	STOT SE 3	Calculation method.
H302+H312+H332	Acute Tox. 4	Calculation method.
H317	Skin Sens. 1	Calculation method.

Additional information

Indication of changes Section 8: Update of DNEL and/or PNEC data

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.