

Safety Data Sheet

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

Revision date: 24.08.2022

Version: 7.4

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

1.1 Product identifier

Trade name/designation:	Formaldehyde 36% (39% w/v) AnalaR NORMAPUR® Reag. Ph.Eur., ACS stabilized with about 10 % of methanol
Product No.:	20909
CAS No.:	50-00-0
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
Skin corrosion, category 1B	H314
Germ cell mutagenicity, category 2	H341
Carcinogenicity, category 1B	H350
Specific target organ toxicity (single exposure), category 1	H370
Specific target organ toxicity (single exposure), category 3, Respiratory tract irritation	H335
Acute toxicity, category 3, oral, dermal and inhalation	H301+H311+H331
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	
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.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H335	May cause respiratory irritation.

Precautionary statements	
P201	Obtain special instructions before use.
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+P310	IF exposed or concerned: Immediately 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
Formaldehyde	30 - 40%	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 %
Methanol	10 - 15%	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: Immediately call a POISON CENTRE/doctor. 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

Immediately 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. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

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

Immediately call a POISON CENTRE/doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. 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

The product itself does not burn.
Co-ordinate fire-fighting measures to the fire surroundings.

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:
Carbon monoxide
Carbon dioxide (CO₂)

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 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

Do not breathe gas/vapour/aerosol. Provide adequate ventilation. Use personal protection equipment. In case of major fire and large quantities: Remove persons to safety. Wear a self-contained breathing apparatus and chemical protective clothing.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Make sure spills can be contained, e.g. in sump pallets or kerbed areas. 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. Clean contaminated articles and floor according to the environmental legislation. 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

Avoid:

Inhalation

Avoid contact with eyes and skin.

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.

Protect from moisture.

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: 15-25 °C

Storage class: 3

Keep container tightly closed and in a well-ventilated place.

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
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	
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:	0,12 mm
Breakthrough time::	240-480 min
Recommended glove articles:	VWR 112-0998

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time::	-
Recommended glove articles:	VWR 112-3717 / 112-1381

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:	A1
Recommendation:	VWR 111-8930

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:	colourless
(b) Odour:	pungent
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	3.5 - 4.5 (20°C)
(e) Melting point/freezing point:	-15 °C
(f) Initial boiling point and boiling range:	97 °C (1013 hPa)
(g) Flash point:	66 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	1 hPa (20 °C)
(l) Vapour density:	no data available
(m) Density:	1.088 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:	360 °C (1.013 hPa) Method: DIN 51794
(q) Decomposition temperature:	not applicable
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	1.8 mPa*s (25 °C)
(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

Vapours can form explosive mixtures with air.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Formation of explosive mixtures with:

Oxidising agent

Nitrogen oxides (NO_x)

Material, oxygen-rich, Oxidising

Nitric acid

Chlorine

Bromine

Exothermic reaction with:

Reducing agent

Acid

Acid halides

Alkali (lye), concentrated

Violent reaction with:

Alkali metals

Alkaline earth metal

Formation of:

Hydrogen

10.4 Conditions to avoid

UV-radiation/sunlight

Heat

This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

10.5 Incompatible materials

light metals

Plastic articles

10.6 Hazardous decomposition products

no data available

10.7 Additional information

Slowly corrodes aluminium and zinc under hydrogen evolution.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

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

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

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:

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

Methanol - LD50: > 15800 mg/kg - Rabbit

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

Acute inhalation toxicity:

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

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

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 severe skin burns and eye damage.

Irritation to eyes:

Causes serious eye damage.

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:

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

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:

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

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

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:

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.:	2209
14.2	Proper Shipping Name:	FORMALDEHYDE SOLUTION
14.3	Class(es):	8
	Classification code:	C9
	Hazard label(s):	8
14.4	Packing group:	III
14.5	Environmental hazards:	No
14.6	Special precautions for user:	
	Hazard identification number (Kemler No.):	80
	tunnel restriction code:	E
		(Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

14.1	UN-No.:	2209
14.2	Proper Shipping Name:	FORMALDEHYDE SOLUTION
14.3	Class(es):	8
	Classification code:	
	Hazard label(s):	8
14.4	Packing group:	III
14.5	Environmental hazards:	No
	Marine pollutant:	No
14.6	Special precautions for user:	
	Segregation group:	-
	EmS-No.	F-A S-B
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.:	2209
14.2	Proper Shipping Name:	FORMALDEHYDE SOLUTION
14.3	Class(es):	8
	Classification code:	
	Hazard label(s):	8
14.4	Packing group:	III
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.
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.
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
H314	Skin Corr. 1B	Calculation method.
H341	Muta. 2	Calculation method.
H350	Carc. 1B	Calculation method.
H370	STOT SE 1	Calculation method.
H335	STOT SE 3	Calculation method.
H301+H311+H331	Acute Tox. 3	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.