Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

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

· **1.1 Product identifier**

· **Trade name: Formaldehyde, 16% EM Grade (Methanol Free)**

· **Article number:** AGR1026
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
Laboratory chemicals, Manufacture of substances.
· **Application of the substance / the preparation:** No further relevant information.

· **1.3 Details of the supplier of the safety data sheet**
· **Supplier.**
Agar Scientific Ltd
Parsonage Lane
Stansted CM24 8GF
United Kingdom
sales@agarscientific.com
Tel: +44 (0) 1279 813 519

· **Further information obtainable from:** Technical Support
· **1.4 Emergency telephone number:** 24 hours: +44 (0)1856 407333

*

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.


GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.


GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**


GHS06 GHS08

· **Signal word** Danger

(Contd. on page 2)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 1)

· **Hazard-determining components of labelling:**
Formaldehyde
· **Hazard statements**
H302+H312 Harmful if swallowed or in contact with skin.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H335 May cause respiratory irritation.
· **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **Description:**
Synonim: Paraformaldehyde

Emergency overview
Appearance: Clear liquid.
Immediate effects: Irritant.

Potential health effects
Primary Routes of entry: Inhalation, ingestion, skin and eye contact.
Eyes: Irritating to the eyes.
Skin: Irritating to skin.
Ingestion: Toxic by ingestion.
Inhalation: Irritating to the nose, throat and lungs.
Chronic Exposure: Extreme or prolonged exposure will induce tearing of eye tissue, coughing, difficulty in breathing, nausea, headache, or weakness.
Chemical Listed As Carcinogen Or Potential Carcinogen: Formaldehyde (50-00-0).
See Toxicological Information (Section11)

· **Dangerous components:**

CAS: 50-00-0 EINECS: 200-001-8	Formaldehyde Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Muta. 2, H341; Carc. 1B, H350; Skin Corr. 1B, H314; Skin Sens. 1, H317	16.0%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 2)

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
No adverse effects are anticipated from inhalation.
Remove to fresh air. Give oxygen or artificial respiration, as needed.
· **After skin contact:**
Wash with water and soap and rinse thoroughly.
Wash affected area with copious amounts of water.
· **After eye contact:**
Rinse opened eye under running water. If symptoms persist, consult a doctor.
Flush eyes with water for at least 15 minutes.
· **After swallowing:**
Call for a doctor immediately.
Drink 1 or 2 glasses of water. Call physician. Seek medical treatment if discomfort persists.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
Flash Point: >60 °C (Closed cup)
Flammable Limits: LEL: 7 UEL: 73
· **Suitable extinguishing agents:** Water, carbon dioxide, dry chemical powder, foam.
· **5.2 Special hazards arising from the substance or mixture** Use water spray to disperse vapours.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Positive pressure self-contained breathing apparatus.
Firefighters must wear self-contained breathing apparatus and fully protective equipment.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Wear self-contained breathing apparatus, rubber boots and gloves.
· **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Absorb on sand, vermiculite, sawdust and put in a container for future disposal. Wash and ventilate spill site after pickup is complete.
Dissolve or mix the material with a combustible. Dispose of insolvent and burn in an EPA licensed chemical incinerator equipped with an afterburner and scrubber.
· **6.4 Reference to other sections**
See Section 7 for information on safe handling.

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 3)

See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
Avoid contact with skin and eyes. Do not inhale.
· **Information about fire - and explosion protection:**
Extinguishing media: Water fog - dried resin only.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Storage Temperature: Room temperature.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep container tightly sealed.
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:**
Ventilation required: Mechanical ventilation.
Safety shower and eye bath.

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
50-00-0 Formaldehyde	
WEL	Short-term value: 2.5 mg/m³, 2 ppm Long-term value: 2.5 mg/m³, 2 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
OSHA/NIOSH approved respirator if needed.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 4)

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Rubber recommended.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective clothing.
· **Risk management measures** Safety shower and eye bath.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solution
Colour:	Clear
· **Odour:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	>93 °C
· **Flash point:**	>60 °C
· **Flammability (solid, gas):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	7 Vol %
Upper:	73 Vol %
· **Vapour pressure at 20 °C:**	17-20 hPa
· **Density:**	Not determined.
· **Relative density at 20 °C**	1.08-1.13 g/cm³
· **Vapour density at 20 °C**	~1 (air=1)
· **Evaporation rate at 20 °C**	>1 (butyl acetate=1)
· **Solubility in / Miscibility with water:**	Fully miscible.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 5)

Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	16.0 %
Water:	5.0 %
VOC (EC)	98 % 16.00 %
Solids content:	0.0 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability** Non-hazardous instability.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions** Non-hazardous polymerization.
· **10.4 Conditions to avoid** Cool or high temperatures, free radical sources.
· **10.5 Incompatible materials:** Phenol, strong acids, alkalis.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity**
Harmful if swallowed or in contact with skin.
Toxic if inhaled.

· **LD/LC50 values relevant for classification:**		
50-00-0 Formaldehyde		
Oral	LD50	100 mg/kg (rat)
		204 mg/kg (rabbit)
Inhalative	LC50/4 h	0.203 mg/l (rat)

· **Specific symptoms in biological assay:**
Irritation Data
Eye (Rabbit): 750ug, severe. Investigated as a tumorigenic, mutagen and reproductive effectors.
· **Skin corrosion/irritation**
Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye irritation.
· **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
· **Other information (about experimental toxicology):**
For more information visit the websites formaldehyde.org or cancer.gov
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity**
Suspected of causing genetic defects.
· **Carcinogenicity**
May cause cancer.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure**
May cause respiratory irritation.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 6)

· **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· **12.1 Toxicity** Formaldehyde (50-0-0): LC 50/96-hour for fish are between 10 and 100 mg/L
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** 90 % - Readily biodegradable.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to aquatic life.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, IMDG, IATA**	UN3334
· **ADN**	Void
· **14.2 UN proper shipping name**	
· **ADR**	3334 Aviation regulated liquid, n.o.s.
· **ADN**	Void
· **IMDG, IATA**	Aviation regulated liquid, n.o.s.
· **14.3 Transport hazard class(es)**	
· **ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	
· **Marine pollutant:**	No
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 7)

· **Transport/Additional information:**

· **ADR**	
· **Limited quantities (LQ)**	-
· **Excepted quantities (EQ)**	NOT SUBJECT TO ADR
· **UN "Model Regulation":**	Void

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** H2 ACUTE TOXIC
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 72

· **National regulations:**
· **Additional classification according to Decree on Hazardous Materials, Annex II:**
Carcinogenic hazardous material group III (dangerous).

· **Information about limitation of use:**
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge and should assist the user with the safe handling of this material when properly applied. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.

· **Department issuing SDS:** Sales department
· **Contact:**
sales@agarscientific.com
Tel: +44 (0) 1279 813 519
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Date Printed 27.02.2019 **Version number 1** **Revision Date 27.02.2019**

Trade name: Formaldehyde, 16% EM Grade (Methanol Free)

(Contd. of page 8)

Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· *** Data compared to the previous version altered.**