

**Safety Data Sheet**

according to UK REACH Regulation

**Gold leaf and metal leaf adhesive**

Revision date: 24.10.2022

Product code: 0404

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Gold leaf and metal leaf adhesive

UFI: 0DV2-852X-710Q-ES33

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

Adhesives, sealants

**Uses advised against**

No further relevant information available.

**1.3. Details of the supplier of the safety data sheet**

Company name:	MARAWE GmbH & Co. KG	
Street:	Donaustauer Str. 378 - Gebäude 64	
Place:	D-93055 Regensburg	
Telephone:	+49 941 / 29020439	Telefax: +49 941 / 29020593
e-mail:	info@marawe.de	
Contact person:	Product safety department	
Internet:	www.marawe.de	

**1.4. Emergency telephone number:**+49 941 / 29020439,  
Mo-Do 9:00 - 16:00 Uhr; Fr 9:00 - 14:00 Uhr**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**Flam. Liq. 3; H226  
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****GB CLP Regulation**

Signal word: Warning

Pictograms:

**Hazard statements**H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.**Precautionary statements**P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves and eye/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P403+P235 Store in a well-ventilated place. Keep cool.

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Dispose of contents/container to according to local/national waste disposal regulations.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification (GB CLP Regulation)	
64-17-5	ethanol; ethyl alcohol	10 - < 15 %
	200-578-6	
	01-2119457610-43	
	Flam. Liq. 2, Eye Irrit. 2; H225 H319	
52-51-7	bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	< 1 %
	200-143-0	
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, STOT SE 3, Aquatic Acute 1, Aquatic Chronic 2; H331 H301 H312 H315 H318 H335 H400 H411	
34590-94-8	(2-methoxymethylethoxy)propanol	< 1 %
	252-104-2	
	01-2119450011-60	

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
64-17-5	200-578-6	ethanol; ethyl alcohol	10 - < 15 %
		inhalation: LC50 = > 20 mg/l (vapours); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 10470 mg/kg	
52-51-7	200-143-0	bronopol (INN); 2-bromo-2-nitropropane-1,3-diol	< 1 %
		inhalation: LC50 = > 5 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = 1600 mg/kg; oral: LD50 = 180 mg/kg M acute; H400: M=10	

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**After inhalation**

Provide fresh air. Remove person to fresh air and keep comfortable for breathing. In case of breathing difficulties administer oxygen. If unconscious but breathing normally, place in recovery position and seek medical advice.

**After contact with skin**

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Get medical advice/attention.

**After ingestion**

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Get medical advice/attention if you feel unwell.

**4.2. Most important symptoms and effects, both acute and delayed**

Prolonged or repeated contact with skin or mucous membrane result in irritation symptoms such as redness, blistering, dermatitis, etc.

Direct contact with eyes can cause irritations.

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

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Vapours may cause drowsiness and dizziness.

**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 jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder. Fight bigger fires with water spray jet or alcohol-resistant foam.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

Flammable. Vapours can form explosive mixtures with air.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus. Do not breathe explosive- and combustion gases. Exposure to decomposition products can be harmful to health.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Keep away from sources of ignition - No smoking. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion risk. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Prevent spread over a wide area (e.g. by containment or oil barriers).

**6.3. Methods and material for containment and cleaning up****For containment**

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

**For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe mist/vapours/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

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Vapours can form explosive mixtures with air.

#### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

##### Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

##### Further information on storage conditions

The regulations of the Ordinance on Hazardous Substances with its respective technical rules (TRGS 510) have to be respected.

#### 7.3. Specific end use(s)

Adhesives, sealants

## SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
34590-94-8	(2-methoxymethylethoxy) propanol	50	308		TWA (8 h)	WEL
64-17-5	Ethanol	1000	1920		TWA (8 h)	WEL

##### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
64-17-5	ethanol; ethyl alcohol			
	Consumer DNEL, long-term	oral	systemic	87 mg/kg bw/day
	Worker DNEL, long-term	dermal	systemic	343 mg/kg bw/day
	Consumer DNEL, long-term	dermal	systemic	206 mg/kg bw/day
	Worker DNEL, acute	inhalation	local	1900 mg/m <sup>3</sup>
	Worker DNEL, long-term	inhalation	systemic	950 mg/m <sup>3</sup>
	Consumer DNEL, acute	inhalation	local	950 mg/m <sup>3</sup>
	Consumer DNEL, long-term	inhalation	systemic	114 mg/m <sup>3</sup>

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#### PNEC values

CAS No	Substance	
Environmental compartment		Value
64-17-5	ethanol; ethyl alcohol	
Freshwater		0,96 mg/l
Marine water		0,79 mg/l
Freshwater sediment		3,6 mg/kg
Marine sediment		2,9 mg/kg
Micro-organisms in sewage treatment plants (STP)		580 mg/l
Soil		0,63 mg/kg

#### 8.2. Exposure controls



#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Tight sealing protective goggles (DIN EN 166).

##### Hand protection

Tested protective gloves must be worn (EN ISO 374). Take recovery periods for skin regeneration.

Suitable material: Butyl caoutchouc (butyl rubber)

Breakthrough time: > 480 minutes

Unsuitable material: NBR (Nitrile rubber), NR (natural rubber, Natural latex)

Breakthrough time: < 60 minutes

##### Skin protection

Use of protective clothing. Wear suitable protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

##### Environmental exposure controls

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	white
Odour:	characteristic

#### Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	> 90 °C
Flash point:	> 35 °C

#### Flammability

Solid/liquid:	not applicable
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Gas: not applicable

**Explosive properties**

The product is not explosive, but the formation of explosive vapour/air mixtures is possible.

Lower explosion limits: &gt; 3,1 vol. %

Upper explosion limits: &lt; 27,7 vol. %

Auto-ignition temperature: not determined

Decomposition temperature: not determined

pH-Value (at 20 °C): 7,0 - 7,5

Water solubility: easily soluble

**Solubility in other solvents**

not determined

Partition coefficient n-octanol/water: not determined

Vapour pressure: not determined

Density (at 20 °C): 1,0 - 1,1 g/cm<sup>3</sup>

Relative vapour density: not determined

**9.2. Other information****Information with regard to physical hazard classes**

Oxidizing properties

The product is not: oxidising.

**Other safety characteristics**

Solid content: not determined

Evaporation rate: not determined

**Further Information****SECTION 10: Stability and reactivity****10.1. Reactivity**

Flammable. Vapours are heavier than air, spread along floors and form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Strong heating when in contact with: Oxidizing agent, Reducing agent, Alkali metals

**10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. not useable after freezing.

**10.5. Incompatible materials**

plastic and rubber

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Based on available data, the classification criteria are not met.

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
64-17-5	ethanol; ethyl alcohol				
	oral	LD50 mg/kg	10470	Rat	Manufacturer OECD 401
	dermal	LD50 mg/kg	> 2000	Rabbit	Manufacturer OECD 402
	inhalation (4 h) vapour	LC50	> 20 mg/l	Mouse	Manufacturer OECD 403
52-51-7	bronopol (INN); 2-bromo-2-nitropropane-1,3-diol				
	oral	LD50 mg/kg	180	Rat	Manufacturer
	dermal	LD50 mg/kg	1600	Rat	Manufacturer
	inhalation vapour	LC50	> 5 mg/l	Rat	Manufacturer
	inhalation dust/mist	ATE	0,5 mg/l		

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Further information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information**
**12.1. Toxicity**

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
64-17-5	ethanol; ethyl alcohol					
	Acute fish toxicity	LC50 mg/l	8140	96 h Leuciscus idus (golden orfe)	Manufacturer	
	Acute algae toxicity	ErC50	275 mg/l	72 h Chlorella vulgaris	Manufacturer	OECD 201
	Acute crustacea toxicity	EC50 mg/l	> 10000	48 h Daphnia magna (Big water flea)	Manufacturer	
	Acute bacteria toxicity	(EC50 mg/l)	> 100	Chlorella pyrenoidosa	Manufacturer	OECD 201

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

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**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

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

The product has not been tested.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**

No information available.

**Further information**

Avoid release to the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

080119 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances; hazardous waste

**List of Wastes Code - used product**

080119 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; aqueous suspensions containing paint or varnish containing organic solvents or other hazardous substances; hazardous waste

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b><u>14.1. UN number or ID number:</u></b>	UN 1170
<b><u>14.2. UN proper shipping name:</u></b>	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
<b><u>14.3. Transport hazard class(es):</u></b>	3
<b><u>14.4. Packing group:</u></b>	III
Hazard label:	3



Classification code:	F1
Special Provisions:	144 601
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	30
Tunnel restriction code:	D/E



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#### Inland waterways transport (ADN)

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Classification code: F1  
 Special Provisions: 144 601  
 Limited quantity: 5 L  
 Excepted quantity: E1

#### Marine transport (IMDG)

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Special Provisions: 144, 223  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 EmS: F-E, S-D

#### Air transport (ICAO-TI/IATA-DGR)

**14.1. UN number or ID number:** UN 1170  
**14.2. UN proper shipping name:** ETHANOL SOLUTION  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3



Special Provisions: A3 A58 A180  
 Limited quantity Passenger: 10 L  
 Passenger LQ: Y344  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 355  
 IATA-max. quantity - Passenger: 60 L  
 IATA-packing instructions - Cargo: 366  
 IATA-max. quantity - Cargo: 220 L

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

Warning: Combustible liquid.

#### 14.7. Maritime transport in bulk according to IMO instruments

not applicable

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**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40

Information according to 2012/18/EU  
(SEVESO III):

P5c FLAMMABLE LIQUIDS

**National regulatory information**

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

1 - slightly hazardous to water

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation  
intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

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VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Flam. Liq. 3; H226	On basis of test data
Eye Irrit. 2; H319	Calculation method

**Relevant H and EUH statements (number and full text)**

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*