

## 1 Identification

- **Product identifier**
- **Trade name:** MA 4511 black
- **Article number:** 100000001126
- **Relevant identified uses of the substance or mixture and uses advised against**  
Currently no such applications are identified.
- **Application of the substance / the mixture** alcohol based permanent marking ink
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
DOKUMENTAL GmbH & Co KG  
Woellnerstraße 26  
D-67065 Ludwigshafen  
Phone + 49 (0)621/37702 321  
Fax + 49 (0)621/37702 391  
www.dokumental.de
- **Information department:**  
Technical Service & Product Safety  
Tel.: +49-621-37702 390  
E-Mail: msds@dokumental.de
- **Emergency telephone number:**  
24-hour-Emergency- Telephone-Number (GBK Contract ID: 94050): (001) 352 323 3500

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2                      H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Muta. 2                      H341 Suspected of causing genetic defects.



GHS05 Corrosion

Eye Dam. 1                      H318 Causes serious eye damage.



GHS07

Skin Irrit. 2                      H315 Causes skin irritation.

STOT SE 3                      H336 May cause drowsiness or dizziness.

Aquatic Acute 3                      H402 Harmful to aquatic life.

Aquatic Chronic 3                      H412 Harmful to aquatic life with long lasting effects.

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS05



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Phosphoric acid mono-bis-(2-ethylhexyl)-ester  
1-methoxy-2-propanol  
C.I. Solvent Orange 3
- **Hazard statements**  
H225 Highly flammable liquid and vapor.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.

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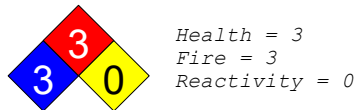
H336 May cause drowsiness or dizziness.  
H402 Harmful to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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.  
P310 Immediately call a poison center/doctor.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



**HMIS-ratings (scale 0 - 4)**



**Other hazards**

**Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

Mixture of the following substances, containing non-hazardous substances and colouring agents.

**Description:** Mixture of the substances listed below with nonhazardous additions.

**Dangerous components:**

64-17-5	ethanol	50-100%
107-98-2	1-methoxy-2-propanol	10-25%
12645-31-7	Phosphoric acid mono-bis-(2-ethylhexyl)-ester	2.5-10%
561-41-1	C.I. Solvent Violet 8 Alternative CAS number: 52080-58-7	≤2.5%
495-54-5	C.I. Solvent Orange 3	≤2.5%
6786-83-0	C.I. Solvent Blue 4 < 0,1% Michler's Ketone	≤1%

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

### 4 First-aid measures

**Description of first aid measures**

**After inhalation:**

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

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- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Wear protective clothing.
- **Environmental precautions:**  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **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.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

### • PAC-1:

64-17-5	ethanol	1,800 ppm
107-98-2	1-methoxy-2-propanol	100 ppm

### • PAC-2:

64-17-5	ethanol	3300* ppm
107-98-2	1-methoxy-2-propanol	160 ppm

### • PAC-3:

64-17-5	ethanol	15000* ppm
107-98-2	1-methoxy-2-propanol	660 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **Storage class:** 3
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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• **Control parameters**

• **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

**64-17-5 ethanol (50-100%)**

PEL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm

**107-98-2 1-methoxy-2-propanol (10-25%)**

REL	Short-term value: 540 mg/m <sup>3</sup> , 150 ppm Long-term value: 360 mg/m <sup>3</sup> , 100 ppm
TLV	Short-term value: 369 mg/m <sup>3</sup> , 100 ppm Long-term value: 184 mg/m <sup>3</sup> , 50 ppm

• **Additional information:** The lists that were valid during the creation were used as basis.

• **Exposure controls**

• **Personal protective equipment:**

• **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

• **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

• **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

If only a short-term loading of the glove material by splashes is expected, tricoted gloves with higher wearability for the better acceptance of the users are recommended.

• **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.

Nitrile rubber, NBR

• **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

## 9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Fluid

Color:

According to product specification

• **Odor:**

Product specific

• **Odor threshold:**

Not determined.

• **Important information on protection of health and environment, and on safety.**

-

• **pH-value at 20 °C (68 °F):**

5.5

• **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

78 °C (172.4 °F)

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· <b>Flash point:</b>	13 °C (55.4 °F)
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	287 °C (548.6 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
Lower:	1.5 Vol %
Upper:	15 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	59 hPa (44.254 mm Hg)
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic at 20 °C (68 °F):	2.2 mPas
Kinematic:	Not determined.
· <b>Solvent content:</b>	
Organic solvents:	87.2 %
Solids content:	8.4 %
· <b>Other information</b>	The physical and chemical properties given in Section 9.1 are rough data only, which are partially derived from the component's data of the mixture. These data are no binding product specifications.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>
12645-31-7 Phosphoric acid mono-bis-(2-ethylhexyl)-ester
Oral LD50 3,000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
None of the ingredients is listed.
· <b>NTP (National Toxicology Program)</b>
None of the ingredients is listed.

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- **OSHA-Ca (Occupational Safety & Health Administration)**
- None of the ingredients is listed.




## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

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

## 14 Transport information

- |   |                          |
|---|--------------------------|
| • <b>UN-Number</b>  | UN1263                   |
| • <b>DOT, ADR, IMDG, IATA</b>   |                          |
| • <b>UN proper shipping name</b>  | Paint                    |
| • <b>DOT</b>  | 1263 PAINT               |
| • <b>ADR</b>  | PAINT                    |
| • <b>IMDG, IATA</b>   |                          |
| • <b>Transport hazard class(es)</b>   |                          |
| • <b>DOT</b>  |                          |
|  |                          |
| • <b>Class</b>  | 3 Flammable liquids      |
| • <b>Label</b>  | 3                        |
| • <b>ADR</b>  |                          |
|  |                          |
| • <b>Class</b>  | 3 (F1) Flammable liquids |
| • <b>Label</b>  | 3                        |
| • <b>IMDG, IATA</b>   |                          |
|  |                          |
| • <b>Class</b>  | 3 Flammable liquids      |
| • <b>Label</b>  | 3                        |

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• <b>Packing group</b>	II
• <b>DOT, ADR, IMDG, IATA</b>	II
• <b>Environmental hazards:</b>	Not applicable.
• <b>Special precautions for user</b>	Warning: Flammable liquids
• <b>Hazard identification number (Kemler code):</b>	33
• <b>EMS Number:</b>	F-E, S-E
• <b>Stowage Category</b>	B
• <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
• <b>Transport/Additional information:</b>	
• <b>DOT</b>	
• <b>Quantity limitations</b>	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
• <b>ADR</b>	
• <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
• <b>IMDG</b>	
• <b>Limited quantities (LQ)</b>	5L
• <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
• <b>UN "Model Regulation":</b>	UN 1263 PAINT, 3, II

## 15 Regulatory information

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

### • Section 355 (extremely hazardous substances):

None of the ingredient is listed.

### • Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

### • TSCA (Toxic Substances Control Act):

#### • Hazardous Air Pollutants

None of the ingredients is listed.

#### • Proposition 65

#### • Chemicals known to cause cancer:

None of the ingredients is listed.

#### • Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

#### • Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

#### • Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

#### • DSL/NDSL (Canada) All ingredients are listed

#### • Cancerogenity categories

#### • EPA (Environmental Protection Agency)

None of the ingredients is listed.

#### • TLV (Threshold Limit Value)

64-17-5 ethanol

A3

#### • MAK (German Maximum Workplace Concentration)

64-17-5 ethanol

5

#### • NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

#### • GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

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**Hazard pictograms**



GHS02



GHS05



GHS07



GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Phosphoric acid mono-bis-(2-ethylhexyl)-ester  
1-methoxy-2-propanol  
C.I. Solvent Orange 3

**Hazard statements**

H225 Highly flammable liquid and vapor.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.  
H336 May cause drowsiness or dizziness.  
H402 Harmful to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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.  
P310 Immediately call a poison center/doctor.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P321 Specific treatment (see on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P370+P378 In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations:**

**Technical instructions (air):**

Class	Share in %
NK	50-100

**Water hazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Contact:**

**Date of preparation / last revision** 04/19/2021 / 19

**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
ICAO: International Civil Aviation Organisation  
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent

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**Safety Data Sheet**  
**acc. to OSHA HCS**

**Trade name: MA 4511 black**

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LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flam. Liq. 2: Flammable liquids - Category 2  
Skin Irrit. 2: Skin corrosion/irritation - Category 2  
Eye Dam. 1: Serious eye damage/eye irritation - Category 1  
Muta. 2: Germ cell mutagenicity - Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) - Category 3  
Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard - Category 3  
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3  
· **\* Data compared to the previous version altered.**

— US —