

## Safety Data Sheet

According to Annex II to REACH - Regulation 2015/830

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Code: 411 00 17900-4536/A-White  
411 00 17901-4536/B-Black  
411 00 17902-4536/C-Yellow  
411 00 17903-4536/D-Red  
411 00 17904-4536/V-Green  
Product name: MARKING PENS

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

Intended use: Valve markers for permanent markings

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

Name: Meccanocar Italia S.r.l.  
Full address: Via San Francesco, 22  
District and Country: 56033 Capannoli (PI)  
Italy

Tel. +39 0587 609433

Fax +39 0587 607145

e-mail address of the competent person

responsible for the Safety Data Sheet: [moreno.meini@meccanocar.it](mailto:moreno.meini@meccanocar.it)

#### 1.4. Emergency telephone number

For urgent inquiries refer to: National Poisons Information Service: +44 121 507 4123

### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture

The product is not classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

However, since the product contains hazardous substances in concentrations such as to be declared in section no. 3, it requires a safety data sheet with appropriate information, compliant to (EU) Regulation 2015/830.

Hazard classification and indication:

#### 2.2. Label elements

Hazard pictograms: --

Signal words: --

Hazard statements:

## MARKING PENS

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Precautionary statements:

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**2.3. Other hazards**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**SECTION 3. Composition/information on ingredients****3.2. Mixtures**

Contains:

Identification	x = Conc. %	Classification 1272/2008 (CLP)
<b>PROPAN-1-OL</b>		
CAS 71-23-8	$62 \leq x < 66$	Flam. Liq. 2 H225, Eye Dam. 1 H318, STOT SE 3 H336
EC 200-746-9		
INDEX 603-003-00-0		
<b>TITANIUM DIOXIDE</b>		
CAS 13463-67-7	$18 \leq x < 19,5$	Carc. 2 H351
EC 236-675-5		
INDEX -		
Reg. no. 01-2119489379-17-XXXX		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures****4.1. Description of first aid measures**

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

**4.3. Indication of any immediate medical attention and special treatment needed**

Information not available

**SECTION 5. Firefighting measures**

**MARKING PENS****5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

**5.2. Special hazards arising from the substance or mixture****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

**5.3. Advice for firefighters****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

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

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Vapours may catch fire and an explosion may occur; vapour

## MARKING PENS

accumulation is therefore to be avoided by leaving windows and doors open and ensuring good cross ventilation. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

## 7.3. Specific end use(s)

Information not available

# SECTION 8. Exposure controls/personal protection

## 8.1. Control parameters

Regulatory References:

ESP	España	LÍMITES DE EXPOSICIÓN PROFESIONAL PARA AGENTES QUÍMICOS EN ESPAÑA 2019 (INSST)
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Third edition, published 2018)
NOR	Norge	Fastsatt av Arbeids- og sosialdepartementet 21. august 2018 med hjemmel i lov 17. juni 2005 nr. 62 om arbeidsmiljø, arbeidstid, stillingsvern mv. (arbeidsmiljøloven) § 1-3, § 1-4 og § 4-5
	TLV-ACGIH	ACGIH 2019

## PROPAN-1-OL

### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	500	200	1000	400	SKIN
VLEP	FRA	500	200			
WEL	GBR	500	200	625	250	SKIN
TLV	NOR	245	100			SKIN
TLV-ACGIH		246	100			

### Predicted no-effect concentration - PNEC

Normal value in fresh water	6,83	mg/l
Normal value in marine water	0,683	mg/l
Normal value for fresh water sediment	27,5	mg/kg
Normal value for marine water sediment	2,75	mg/kg
Normal value of STP microorganisms	96	mg/l
Normal value for the terrestrial compartment	1,49	mg/kg

## Health - Derived no-effect level - DNEL / DMEL

Effects on consumers				Effects on workers				
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				61 mg/kg bw/d				
Inhalation		1036 mg/m3		80 mg/m3				268 mg/m3

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Skin

81 mg/kg  
bw/d136 mg/kg  
bw/d

## TITANIUM DIOXIDE

## Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	10				
VLEP	FRA	10				
WEL	GBR	4				RESP
WEL	GBR	10				INHAL
TLV	NOR	5				
TLV-ACGIH		10				

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified.

## 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

## HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

## SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

## EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

## RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

## ENVIRONMENTAL EXPOSURE CONTROLS

## MARKING PENS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## PROPAN-1-OL

Respiratory Protection: Wear respiratory protection if ventilation is inadequate. Filter for gases / vapors of organic compounds (boiling point > 65 ° C, eg. EN 14387 Type A)

Hand protection: Chemical resistant protective gloves (EN 374)

Materials suitable even with prolonged direct contact (Recommended: protection index 6, corresponding to > 480 minutes of permeation time according to EN 374): butyl rubber (butyl) - coating thickness 0.7 mm

The manufacturer's instructions for use must be observed due to the large variety of types.

Additional note: Specifications are based on tests, literature data and information from glove manufacturers or derived from similar substances by analogy. Due to many conditions (eg temperature) it must be considered that the practical use of a chemical protective glove in practice can be much shorter than the breakthrough time determined by the test.

Eye protection: Tightly sealed protective goggles (splash goggles) (e.g. EN 166)

Body protection: Body protection should be chosen based on activity and possible exposure, eg. apron, protective boots, chemical protective suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

## BLACK COAL

A composition of special carbon black gloves is not required. Gloves can be used to protect hands from carbon black dirt. The use of a barrier cream can help prevent drying of the skin. Wash your hands and other exposed skin with mild soap and water.

## COPPER PHTHALOCYANINE

Respiratory protection: Respiratory protection suitable for lower concentrations or short term effect: Particle filter EN 143 Type P2, medium efficiency (solid and liquid particles of harmful substances).

Hand protection: Chemical resistant protective gloves (EN 374)

for example. nitrile rubber (0.4mm), chloroprene rubber (0.5mm), polyvinyl chloride (0.7mm) and others

The manufacturer's instructions for use must be observed due to the large variety of types.

Eye protection: Safety glasses with side shields (goggles) (EN 166)

## AMORPHOUS SILICATE HYDRATE

Occupational Exposure Limit for Amorphous Silica (inhalable / total dust): Limit type MAK (DE) 4 mg / m<sup>3</sup> (TRGS 900)

Occupational Exposure Limit: Precipitated silica and silica gel:

Type of limit other: TWA 10 mg / m<sup>3</sup>

Value is for asbestos-free total dust and <1% crystalline silica.

ACGIH, American Conference of Government Industrial Hygienists: 1993-1994 Threshold Limit Values for Chemicals and Physical Agents and Biological Exposure Indices (1993)

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Appearance	liquid
Colour	various
Odour	characteristic
Odour threshold	Not available
pH	Not available
Melting point / freezing point	Not available

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Initial boiling point	96 °C
Boiling range	96 °C
Flash point	23 °C
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Lower inflammability limit	Not available
Upper inflammability limit	Not available
Lower explosive limit	Not available
Upper explosive limit	Not available
Vapour pressure	Not available
Vapour density	Not available
Relative density	1,08
Solubility	Not available
Partition coefficient: n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not available

**9.2. Other information**

Information not available

**SECTION 10. Stability and reactivity****10.1. Reactivity**

There are no particular risks of reaction with other substances in normal conditions of use.

COPPER PHTHALOCYANINE

Decomposes at temperatures above 350°C/662°F.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

The vapours may also form explosive mixtures with the air.

PROPAN-1-OL

Reacts with strong oxidizing agents.

COPPER PHTHALOCYANINE

## MARKING PENS

Danger of dust explosion.

**10.4. Conditions to avoid**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

PROPAN-1-OL

No special precautions other than good cleaning of chemicals.

BLACK COAL

Prevent exposure to high temperatures and open flames.

COPPER PHTHALOCYANINE

Avoid humidity.

**10.5. Incompatible materials**

PROPAN-1-OL

Strong oxidizing agents

BLACK COAL

Strong oxidants such as chlorates, bromates and nitrates.

COPPER PHTHALOCYANINE

Incompatible with: strong acids, strong oxidants.

**10.6. Hazardous decomposition products**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

PROPAN-1-OL

No dangerous decomposition products if stored and handled as prescribed / indicated.

BLACK COAL

Carbon monoxide, carbon dioxide, organic decomposition products, oxides or sulfur (sulphoxides) are formed when heated above the decomposition temperature.



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## COPPER PHTHALOCYANINE

May develop: nitric oxide, carbon oxides, copper oxides.

**SECTION 11. Toxicological information****11.1. Information on toxicological effects**Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

LC50 (Inhalation) of the mixture:

Not classified (no significant component)

LD50 (Oral) of the mixture:

Not classified (no significant component)

LD50 (Dermal) of the mixture:

Not classified (no significant component)

## TITANIUM DIOXIDE

LD50 (Oral) > 10000 mg/kg Rat

## BLACK COAL

LD50 (Oral) > 10000 mg/kg Rat

## PROPAN-1-OL

Method: Equivalent or similar to OECD 403

Reliability: 1

Species: Rat (Sprague-Dawley; male / female)

Route of exposure: Inhalation (vapors)

Results: LC50 > 33.8 mg / l

Method: Equivalent or similar to OECD 402

Reliability: 2

## MARKING PENS

Species: Rabbit (New Zealand; male)  
Route of exposure: Cutaneous  
Results: LD50 = 4032 mg / kg bw

## FERRIC OXIDE

Method: EU Method B.1  
Reliability: 2  
Species: Rat (Wistar; male / female)  
Route of exposure: Oral  
Results: LD50:> 5 000 mg / kg bw  
Method: OECD 403  
Reliability: 1  
Species: Rat (Sprague-Dawley; male / female)  
Route of exposure: Inhalation (aerosol)  
Results: 5.05 mg / L air

## BLACK COAL

Method: Equivalent or similar to OECD 401  
Reliability: 1  
Species: Rat (Sprague-Dawley; male / female)  
Route of exposure: Oral  
Results: LD50> 10000 mg / kg bw

## COPPER PHTHALOCYANINE

Method: Equivalent or similar to OECD 401-Read across  
Reliability: 2  
Species: Rat (Sprague-Dawley; male / female)  
Route of exposure: Oral  
Results: LD50> 6400 mg / kg bw  
Method: OECD 402  
Reliability: 2  
Species: Rat (Wistar; male)  
Route of exposure: Cutaneous  
Results: LD50> 5000 mg / kg bw

## AMORPHOUS SILICATE HYDRATE

Method: EU directive 79/831  
Reliability: 1  
Species: Rat (Sprague-Dawley; male / female)  
Route of exposure: Oral  
Results: LD50> 5000 mg / kg bw  
Method: OECD 436  
Reliability: 2  
Species: Rat (Sprague-Dawley; male / female)  
Route of exposure: Inhalation (aerosol)  
Results: LC50> 5.1 mg / L air  
Method: OECD 402  
Reliability: 1  
Species: Rat (Wistar; male / female)  
Route of exposure: Cutaneous  
Results: LD50> 2000 mg / kg bw

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

## PROPAN-1-OL

## MARKING PENS

Method: Equivalent or similar to OECD 404

Reliability: 2

Species: Rabbit (Vienna White)

Route of exposure: Cutaneous

Results: Not classified

## FERRIC OXIDE

Method: OECD 404

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Cutaneous

Results: Not irritating

## BLACK COAL

Method: Equivalent or similar to OECD 404

Reliability: 1

Species: Rabbit (White Russian)

Route of exposure: Dermal

Results: Not irritating

## COPPER PHTHALOCYANINE

Method: Equivalent or similar to OECD 404

Reliability: 2

Species: Rabbit (Vienna White)

Route of exposure: Cutaneous

Results: Not irritating

## AMORPHOUS SILICATE HYDRATE

Method: OECD 404

Reliability: 1

Species: Rabbit (New Zealand White)

Route of exposure: Dermal

Results: Not classified

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

## PROPAN-1-OL

Method: Equivalent or similar to OECD 405

Reliability: 2

Species: Rabbit (Vienna White)

Route of exposure: Ocular

Results: Category 1 (irreversible effects on the eye)

## FERRIC OXIDE

Method: OECD 405

Reliability: 2

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Not irritating

## MARKING PENS

## BLACK COAL

Method: OECD 405

Reliability: 1

Species: Rabbit (New Zealand White)

Route of exposure: Ocular

Results: Not irritating

## COPPER PHTHALOCYANINE

Method: Equivalent or similar to OECD 405

Reliability: 2

Species: Rabbit (Vienna White)

Route of exposure: Ocular

Results: Not irritating

## AMORPHOUS SILICATE HYDRATE

Method: OECD 405

Reliability: 1

Species: Rabbit (Albino)

Route of exposure: Ocular

Results: Not classified

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

## FERRIC OXIDE

Method: Not indicated

Reliability: 2

Species: Guinea pig

Route of exposure: Cutaneous

Results: Not sensitizing

Bibliographical reference: Maurer T, Prädikative Evaluierung allergener Wirkungen von Arznei- und Färbemitteln im Tierexperiment (1979)

## BLACK COAL

Method: OECD 406

Reliability: 1

Species: guinea pig (Dunkin-Hartley; female)

Route of exposure: Dermal

Results: Not sensitizing

Skin sensitization

## TITANIUM DIOXIDE

Method: Equivalent or similar to OECD Guideline 429

Reliability: 1

Species: Mouse (CBA / JHsd; female)

Route of exposure: Dermal

Results: Not sensitizing

## COPPER PHTHALOCYANINE

Method: OECD 429

Reliability: 1

Species: Mouse (CBA; female)

Route of exposure: Dermal

## MARKING PENS

Results: Not sensitizing

#### AMORPHOUS SILICATE HYDRATE

Method: OECD 406

Reliability: 1

Species: Guinea pig (Dunkin-Hartley; female)

Route of exposure: Cutaneous

Results: Not classified

#### GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

#### PROPAN-1-OL

Method: OECD 471 in vitro test

Reliability: 1

Species: S. typhimurium, E. Coli

Results: Negative with and without metabolic activation

#### TITANIUM DIOXIDE

Method: EPA OPPTS 870.5375 - In vitro Mammalian Chromosome Aberration Test

Reliability: 2

Species: Chinese hamster

Results: Negative

#### FERRIC OXIDE

Method: Not indicated - in vivo test

Reliability: 2

Species: Rat (Sprague-Dawley; male)

Results: Negative

Reference: Garry S, Nesslany F, Aliouat E, Haguenoer JM, Marzin D, Hematite (Fe<sub>2</sub>O<sub>3</sub>) enhances benzo (a) pyrene genotoxicity in endotracheally treated rat, as determined by comet assay (2003)

#### BLACK COAL

Method: OECD 471 in vitro test

Reliability: 1

Species: S. typhimurium

Results: Negative with and without metabolic activation

Method: Not indicated - in vivo test

Reliability: 1

Species: Rat (Fischer 344; female)

Route of exposure: Oral

Results: Negative

#### COPPER PHTHALOCYANINE

Method: JAPAN: Guidelines for Screening of Chemical Mutagenicity Tests - In Vitro Test

Reliability: 1

Species: Chinese hamster

Results: Negative with and without metabolic activation

Method: Equivalent or similar to OECD 484-Test in vivo

Reliability: 2

Species: Mouse (T-stock; male / female)

Route of exposure: Intraperitoneal

Results: Negative

## MARKING PENS

## AMORPHOUS SILICATE HYDRATE

Method: Equivalent or similar to OECD 471-Test in vitro

Reliability: 1

Species: S. typhimurium, E. Coli

Results: Negative with and without metabolic activation

Method: Equivalent or similar to OECD 475-In vivo test

Reliability: 2

Species: Rat (Sprague-Dawley; male)

Route of exposure: Oral

Results: Negative

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

## TITANIUM DIOXIDE

Reliability: 2

Species: Mouse (B6C3F1; male / female)

Route of exposure: Oral

Results: NOEL 50000 ppm

## AMORPHOUS SILICATE HYDRATE

Method: Not indicated

Reliability: 2

Species: Rat (Wistar; male / female)

Route of exposure: Oral

Results: NOAEL > = 100 mg / kg bw / day

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Adverse effects on sexual function and fertility

## PROPAN-1-OL

Method: OECD 413

Reliability: 1

Species: Rat (Wistar)

Route of exposure: Not specified

Results: Not classified

## COPPER PHTHALOCYANINE

Method: OECD 421

Reliability: 1

Species: Rat (Crj; CD (SD); male / female)

Route of exposure: Oral

Results: NOAEL (fertility) = 1000 mg / kg bw / day

## AMORPHOUS SILICATE HYDRATE

Method: OECD 416

Reliability: 1

Species: Rat (Wistar; male / female)

Route of exposure: Oral

## MARKING PENS

Results: NOAEL (fertility)> = 1000 mg / kg bw / day

Adverse effects on development of the offspring  
PROPAN-1-OL

Method: Equivalent or similar to OECD 414  
Reliability: 2  
Species: Rat (Sprague-Dawley)  
Route of exposure: Inhalation (vapors)  
Results: NOAEC (development) = 17460 mg / m3 air

## TITANIUM DIOXIDE

Method: OECD Guideline 414  
Reliability: 1  
Species: Mouse (Wistar)  
Route of exposure: Oral  
Results: NOAEL 1 000 mg / kg bw / day

## COPPER PHTHALOCYANINE

Method: OECD 421  
Reliability: 1  
Species: Rat (Crj: CD (SD))  
Route of exposure: Oral  
Results: NOAEL (development) = 1000 mg / kg bw / day

## AMORPHOUS SILICATE HYDRATE

Method: OECD 414  
Reliability: 1  
Species: Rat (Wistar)  
Route of exposure: Oral  
Results: NOAEL (development)> = 1000 mg / kg bw / day

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

## PROPAN-1-OL

Based on available data and through expert judgment, the substance is classified in the target organ toxicity class for single exposure.

## TITANIUM DIOXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## FERRIC OXIDE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## BLACK COAL

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## COPPER PHTHALOCYANINE

## MARKING PENS

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

## AMORPHOUS SILICATE HYDRATE

Based on available data and through expert judgment, the substance is not classified in the target organ toxicity class for single exposure.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

## PROPAN-1-OL

Method: OECD 413

Reliability: 1

Species: Rat (Wistar; male / female)

Route of exposure: Inhalation (vapors)

Results: NOAEC = 8000 mg / m<sup>3</sup> air

## TITANIUM DIOXIDE

Based on available data and expert judgment, the substance is not classified in the target organ toxicity class for prolonged or repeated exposure.

## FERRIC OXIDE

Method: OECD 413

Reliability: 1

Species: Rat (Wistar; male / female)

Route of exposure: Inhalation

Results: NOAEL 4.7 mg / m<sup>3</sup> air

## BLACK COAL

Method: Equivalent or similar to OECD 476

Reliability: 1

Species: Rat, mouse, hamster (F344, B6C3F1, F1B Syrian golden; females)

Route of exposure: Inhalation (aerosol)

Results: Negative

## COPPER PHTHALOCYANINE

Method: Equivalent or similar to OECD 408

Reliability: 2

Species: Rat (Fischer 344; male / female)

Route of exposure: Oral

Results: NOAEL = approx. 4500 mg / kg bw / day

## AMORPHOUS SILICATE HYDRATE

Method: Equivalent or similar to OECD 408

Reliability: 1

Species: Rat (Wistar; male / female)

Route of exposure: Oral

Results: Not indicated

Method: OECD 413

Reliability: 1

Species: Rat (Wistar; male / female)

Route of exposure: Inhalation (aerosol)

Results: Not classified



## MARKING PENS

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

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

## PROPAN-1-OL

LC50 - for Fish 4555 mg/l/96h

EC50 - for Crustacea 1000 mg/l/48h

EC50 - for Algae / Aquatic Plants 9170 mg/l/72h

EC10 for Algae / Aquatic Plants 1150 mg/l/72h

Chronic NOEC for Algae / Aquatic Plants 1150 mg/l

## BLACK COAL

EC50 - for Crustacea 5600 mg/l/48h

**12.2. Persistence and degradability**

## PROPAN-1-OL

Easily degradable in water, 81% in 15 days.

## FERRIC OXIDE

Solubility in water < 0,001 mg/l

Degradability: information not available

## COPPER PHTHALOCYANINE

Solubility in water 0,001 mg/l

NOT rapidly degradable

## AMORPHOUS SILICATE HYDRATE

Solubility in water 0,1 - 100 mg/l

Degradability: information not available

## TITANIUM DIOXIDE

Solubility in water < 0,001 mg/l

Degradability: information not available

## PROPAN-1-OL

Solubility in water 1000 - 10000 mg/l

**12.3. Bioaccumulative potential**

## MARKING PENS

## AMORPHOUS SILICATE HYDRATE

Partition coefficient: n-octanol/water 0,53

## PROPAN-1-OL

Partition coefficient: n-octanol/water 0,2

BCF 0,88

## 12.4. Mobility in soil

## PROPAN-1-OL

Partition coefficient: soil/water 0,633

## 12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

## 12.6. Other adverse effects

Information not available

## SECTION 13. Disposal considerations

## 13.1. Waste treatment methods

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

## CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## PROPAN-1-OL

They must be disposed of or incinerated in accordance with local regulations.

## FERRIC OXIDE

Product residues and uncleaned empty containers must be packaged, sealed, labeled and disposed of or recycled in accordance with relevant national and local regulations. In case of large quantities, consult the supplier. When uncleaned empty containers are transferred, the recipient must be alerted to any possible danger that may be caused by residues. For disposal within the EC, the appropriate

the code according to the European List of Waste (EWL) must be used. It is up to the polluter to assign waste to specific waste codes for industrial sectors and processes according to the European Waste List (EWL).

Based on the current knowledge of the supplier, this product is not considered as hazardous waste, as defined by EU Directive 91/689 / EEC.

The generation of waste should be avoided or minimized wherever possible. Waste packaging must be recycled. Incineration or landfill should only be considered when recycling is not feasible.

## Special precautions:

This material and its container must be disposed of safely. Empty containers or liners can retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## BLACK COAL

The product can be burned in suitable incineration plants or disposed of in a suitable landfill in compliance with the regulations issued by the competent federal, provincial, state and local authorities.

## COPPER PHTHALOCYANINE

## MARKING PENS

It must be discharged or incinerated in accordance with local regulations.

AMORPHOUS SILICATE HYDRATE

Unused SAS is not classified as hazardous waste.

**SECTION 14. Transport information****14.1. UN number**

ADR / RID, IMDG, 1210  
IATA:

**14.2. UN proper shipping name**

ADR / RID: PRINTING INK or PRINTING INK RELATED MATERIAL  
IMDG: PRINTING INK or PRINTING INK RELATED MATERIAL  
IATA: PRINTING INK or PRINTING INK RELATED MATERIAL

**14.3. Transport hazard class(es)**

ADR / RID: Class: 3 Label: 3  
IMDG: Class: 3 Label: 3  
IATA: Class: 3 Label: 3

**14.4. Packing group**

ADR / RID, IMDG, III  
IATA:

**14.5. Environmental hazards**

ADR / RID: NO  
IMDG: NO  
IATA: NO

**14.6. Special precautions for user**

ADR / RID:	HIN - Kemler: 30	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
IMDG:	Special Provision: - EMS: F-E, S-D	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 220 L	Packaging instructions: 366
	Pass.:	Maximum	Packaging

## MARKING PENS

quantity: 60 L

instructions:  
355

Special Instructions:

A3, A72,  
A192**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Information not relevant

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

Seveso Category - Directive 2012/18/EC: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006Product

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Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage greater than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

**15.2. Chemical safety assessment**

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

## MARKING PENS

<b>Flam. Liq. 2</b>	Flammable liquid, category 2
<b>Carc. 2</b>	Carcinogenicity, category 2
<b>Eye Dam. 1</b>	Serious eye damage, category 1
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>H225</b>	Highly flammable liquid and vapour.
<b>H351</b>	Suspected of causing cancer.
<b>H318</b>	Causes serious eye damage.
<b>H336</b>	May cause drowsiness or dizziness.

## LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

## GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 790/2009 (I Atp. CLP) of the European Parliament
  4. Regulation (EU) 2015/830 of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2018/1480 (XIII Atp. CLP)
  16. Regulation (EU) 2019/521 (XII Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety

**MARKING PENS**

- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Product's classification is based on the calculation methods set out in Annex I of the CLP Regulation, unless otherwise indicated in sections 11 and 12.

The data for evaluation of chemical-physical properties are reported in section 9.

**Changes to previous review:**

The following sections were modified:

01 / 02 / 03 / 04 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.