

Marabu 6761 油墨
重金屬含量

**Material Safety Data Sheet**

according to 91/155/EC

Manufacturer : Marabuwerke GmbH & Co. D-71732 Tamm

Product number: 3227, 3237, 3247

Trade name : MARASTAR SR, ink shades 020-273, 636-868

Marabu Printing date : 25.02.00

Reviewed on : 01.09.97

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01. Identification of substance, preparation and companyTrade name

MARASTAR SR, ink shades 020-273, 636-868

Manufacturer/Supplier

Marabuwerke GmbH & Co.

Street/P.O. box

Asperger Str. 4

Nationality code/Postcode/Town/City

D-71732 Tamm

Telephone/Telefax

Telefon : 07141/691-0

Telefax : 07141/691-235

Emergency information

Telefon : 07141/691-116 (Frau Heller)

02. Composition/Information on componentsChemical characterizationScreen printing ink based on acrylic resins
and on solventsHazardous components4-HYDROXY-4-METHYLPENTAN-2-ONE

Concentration :	10 -	45 %	CAS number :	123-42-2
Symbol :	Xi	R : 36		

CYCLOHEXANONE

Concentration :	5 -	20 %	CAS number :	108-94-1
Symbol :	Xn	R : 10-20		

BUTYLGLYCOL ACETATE

Concentration :	1 -	15 %	CAS number :	112-07-2
Symbol :	Xn	R : 20/21		

All shades except for 070, 073, 270 and 273 contain additionally:

SOLVENT NAPHTHA (PETROLEUM), LIGHT AROM.

Concentration :	5 -	10 %	CAS number :	64742-95-6
Symbol :	Xn N	R : 65-10-37-51/53		

All shades except for 170 and 182 contain additionally:

BUTYLGLYCOLATE

Concentration :	1 -	5 %	CAS number :	7397-62-8
Symbol :	Xi	R : 41		

Ink shades 182, 191 and 193 contain additionally:

NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY

Concentration :	1 -	5 %	CAS number :	64742-82-1
Symbol :	Xn N	R : 10-65-51/53		

03. Hazards identificationHazard designation

Irritant

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Particular information pertaining specific risk for human and environment

The product is water polluting

Irritating to eyes

04. First aid measures

General

immediately remove all contaminated clothing

In all cases of doubt, or when symptoms persist, seek medical attention.

unconsciousness: lateral position - call a physician

Inhalation

Take the casualty into the fresh air and keep warm

irregular breathing/no breathing: artificial respiration

call a physician

Skin contact

wash away with soap and water and rinse

Do NOT use solvents or thinners.

Eye contact

Flush with plenty of water (10 - 15 min.)

call a physician

Ingestion

Call a doctor

Keep at rest.

do not induce vomiting

05. Fire-fighting measures

Extinguishing media - suitable

Carbon dioxide, foam, sand, dry extinguishing agent

Extinguishing media - NOT suitable

Waterjet should not be used because water is not mixable with a lot of organic solvents and such solvents will spread on the water surface.

Special risk posed by the substance or by the actual preparation, its combustion products or gases discharged

In case of fire, dangerous smoke gases such as carbon dioxide, carbon monoxide, soot, nitrogen oxides, metal oxides and halogenated hydrogens can be produced.

Therefore, take suitable precautionary measures for fire fighting. Residues remaining after a fire have to be disposed of appropriately.

Protective equipment

Breathing apparatus with an independent source of air may be required.

Additional information

cool endangered containers with water in case of fire

06. Accidental release measures

Personal precautions

Keep away from sources of ignition. Provide for good ventilation. Do not breathe vapours.

Refer to protective measures listed in sections 7 and 8.

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Environmental precautions

do not empty into drains

If the product contaminates lakes, rivers or sewages, inform appropriate authorities in accordance with local regulations.

Methods for cleaning up/collecting

Remove by liquid absorbing material (e.g. kieselguhr) and process according to waste regulations.

Clean preferably with a detergent; avoid use of solvents.

07. Handling and storage

Information for safe handling

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limit. Do not leave containers open. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Avoid contact with skin and eyes. Avoid inhalation of vapour and spray mist. When using do not eat, drink or smoke.

Comply with the health and safety at work laws.

Information about protection against explosions and fires

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

Preparation may charge electrostatically: always use earthing leads when transferring from one container to another.

Operators should wear antistatic footwear and clothing. No sparking tools should be used.

Requirements to be met by storerooms and containers

Recommended storage temperature: 15-20°C.

Keep container tightly closed. Never use pressure to empty: container is not a pressure vessel. No smoking. Prevent unauthorized access.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Information about separation of incompatible products

Keep away from oxidizing agents, from strongly alkaline and strongly acid materials.

Further information about storage conditions

Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight.

Keep containers dry and cool

Keep away from sources of ignition.

08. Exposure controls and personal protection

Additional information about engineering measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

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Components with critical values that require monitoring at the workplace (exposure limits)**4-HYDROXY-4-METHYLPENTAN-2-ONE**

CAS : 123-42-2

Specification : Short Term Exposure Limit (STEL)
 Nation : GB
 Value : 75,0000 ppm / 362,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97
 Specification : Long Term Exposure Limit (LTEL)
 Nation : GB
 Value : 50,0000 ppm / 241,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97

CYCLOHEXANONE

CAS : 108-94-1

Specification : Short Term Exposure Limit (STEL)
 Nation : GB
 Value : 100,0000 ppm / 408,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97
 Specification : Long Term Exposure Limit (LTEL)
 Nation : GB
 Value : 25,0000 ppm / 102,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97

All shades except for 070, 073, 270 and 273 contain additionally:

AROMATICS

Specification : Long Term Exposure Limit (LTEL)
 Nation : GB
 Value : 500,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97

1,2,4-TRIMETHYLBENZENE

CAS : 95-63-6

Specification : Long Term Exposure Limit (LTEL)
 Nation : GB
 Value : 25,0000 ppm / 125,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97

Ink shades 182, 191 and 193 contain additionally:

NORMAL AND BRANCHED CHAIN ALKANES, 2C7

Specification : Long Term Exposure Limit (LTEL)
 Nation : GB
 Value : 1200,0000 mg/m3
 Valid as per (mm/yy) : 08 / 97

Personal protective equipment**General protective and hygiene measures**

The usual precautionary measures for the handling of chemicals have to be observed.

Respiratory equipment

Breathing protection equipment required in inadequately ventilated places and during spraying.

Respiratory filter (gas) : A

Respiratory filter (part): P2

Skin protection

use protective gloves

Eye protection

use safety glasses

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Body protection

Personal should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber. All parts of the body should be washed after contact.

Use re-greasing skin cream.

09. Physical and chemical properties**Image**

Form : pasty
 Colour : see trade name
 Odour : characteristic

Relevant safety data**Change in condition**

Boiling point (initial)

Flashpoint :

150 °C

Ignition temperature :

49 °C

Explosive limits :

375 °C

Lower / Upper :

Vapor pressure :

50 °C

0,7 Volt

9,4 Volt

20 °C

1000 hPa

Density :

20 °C

7 hPa

Solubility in water :

parts of
solvents

1,0-1,8 g/cm3

Viscosity :

Flow time:

20 °C

150 s

DIN-cup 4 mm

Additional information

the physical specifications are approximate values and refer to the used safety relevant component(s).

10. Stability and reactivity**Conditions to avoid**

Stable under recommended storage and handling conditions (See section 7).

Materials to avoid

Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Dangerous decomposition products

When exposed to high temperatures, dangerous decomposition products such as carbon dioxide, carbon monoxide, soot, nitrogen oxides, metal oxides and halogenated hydrocarbons can be produced.

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11. Toxicological information

Experience on practice:

Inhalation can cause headaches, dizziness, tiredness and nausea. Prolonged or repeated inhalation may affect the nervous system and cause kidney and liver complaints.

Danger of absorption by the skin. Irritates and dries the skin. Repeated contact with the skin may lead to inflammation.

Splashes in the eyes have an irritant effect. Prolonged contact with the eyes may lead to corneal opacity.

If swallowed, stomach complaints and irritation of the digestive organs may result.

Additional toxicological information

There are no data available on the preparation itself

The product was classified in toxicological terms on the basis of the results of the calculation procedure outlined within General Directive on Preparations (88/37/EEC).

12. Ecological information

Details on elimination (persistence / degradability)

There are no data available on the preparation itself.

Additional ecological information

Do not empty into waters or drains

13. Disposal considerations

Product

Recommendation

Dispose of or incinerate in accordance with corresponding regulations.

Contaminated packaging

Recommendation

Uncleaned packaging must be disposed of in the same manner as the medium.

Contaminated packaging must be emptied of all residues and, following appropriate cleaning, may be sent to a recycling plant.

14. Transport information

Land transport ADR/RID and GGVS/GGVE

Classification

Class 3, number 31c. Containers with a capacity ≤ 450 l are subject only to the regulations of Rn 2314 (remarks under E of Rn 2301).

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Maritime transport IMDG/GGVSea**Classification**

IMDG-Code : 3.3
 UN-number : 1263
 MFAG-Table : 310

IMDG-Page : 3372
 MARPOL : --
 EmS number : 3-05

Technical name

PAINT

Substance releasing the danger

CYCLOHEXANONE

DIACETONE ALCOHOL

Packaging

Packaging group III

Tremcard

3

Air transport ICAO-TI and IATA-DGR**Classification**

ICAO/IATA Class 3
 UN-number : 1263

Technical name

PAINT

Substance releasing the danger

CYCLOHEXANONE

4-HYDROXY-4-METHYLPENTAN-2-ONE

Packaging

Packaging group III

Tremcard

3

15. Regulatory information**Classification according to EEC directives****Danger symbol and danger designation**

Xi Irritant

Risk-phrases

10 Flammable
 36 Irritating to eyes

Safety-phrases

20/21 When using do not eat, drink or smoke
 24/25 Avoid contact with skin and eyes
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
 29 Do not empty into drains
 51 Use only in well-ventilated areas.

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16. Other information

According to their chemical structure, the applied raw materials do not contain any antimony, arsenic, soluble barium, lead, cadmium, chromium, mercury and selenium.

Department issuing data specification sheet:

Laboratory/product safety

Contact

Dipl.-Chem. G.Heller or Dipl.-Ing. U.Voetter

The instructions are based on today's information and knowledge. The safety data sheet describes products in relation to safety requirements. These instructions do not assure application technological properties of the product.

Material Safety Data Sheet (Appendix) according to 91/155/EC

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Important changes have been made in the chapters listed hereunder in connection with safety, protection to health or environment:

02. Hazardous components

08. Components with critical values that require monitoring at the workplace (exposure limits)

14. Land transport ADR/RID and GGVS/GGVE

14. Maritime transport IMDG/GGVSea

14. Air transport ICAO-TI and IATA-DGR