



Material Safety Data Sheet according to the Regulat. 1907/2006/EC(Annex II)

Revision Date: 11.2008

Date: 1. December 2008

1. Product details:

1.1 Recommended use:

Printing ink of the series „UV...BD“

Customs-tariff-no.: 3215 1900 (multiple colour)

3215 1100 (black)

1.2 Identification of the manufacturer / supplier

B. GRAUEL GmbH

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Product safety:

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2. Hazards possibilities

Hazard designation:

Xi  Irritant

Specific hazards to man and the environment:

36/37/38 Irritating to eyes, respiratory system and skin.




52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / information on ingredients

Chemical characterisation

Preparation of acrylates, pigments, photoinitiators and additives.

Hazardous ingredients:

| EINECS-No. | Name | Symb. | Conc.% |
|------------|-----------------|---|----------|
| CAS-No. | R-phrases | | |
| | Oligotriacrylat | | |
| 36 | | Xi  | 5 - 10 |
| | Acrylates | | |
| 36/37/38 | | Xi  | 30 - 100 |
| | Amino-Keton | | |
| 50/53 | | N  | 1 - 3 |

Additional information:

Meanings of R-phrases see under chapt.16.



4. First aid measures

General information

Remove contaminated clothing immediately and dispose of safely.

After skin contact: Wash off immediately with soap and water.

After eye contact: In case of contact with the eyes rinse thoroughly with plenty of water or with an eye-cleaning solution. In case of irritation consult an oculist.

After ingestion: Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Summon a doctor immediately.

5. Firefighting measures

Suitable extinguishing media:

Foam

Dry powder

Carbon dioxide

Extinguishing media that must not be used for safety reasons

Full water jet

Special exposure hazards arising from the substance or preparation itself, its combustion products or from resulting gases

In the event of fire the following can be released:

Carbon monoxide (CO), Carbon dioxide (CO₂), In case of combustion evolution of dangerous gases possible.

Special protective equipment for firefighting

Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus.

Other information:

Cool endangered containers with water spray jet.

6. Accidental release measures

Personal precautions:

Use personal protective clothing.

Environmental precautions:

Do not discharge into the drains/surface waters/groundwater.

Methods for cleaning up/taking up:

Take up with absorbent material (eg sand, kieselguhr, universal binder).

Dispose of absorbed material in accordance with the regulations.

7. Handling and storage

Handling

Advice on safe handling

Use personal protective clothing.

Open and handle container with care.

Ensure adequate ventilation.

Avoid formation of aerosols.

Advice on protection against fire and explosion

No special measures necessary.

Storage:

Requirements for storage rooms and vessels

Protect from frost.

Protect from heat and direct sunlight.

Keep container tightly closed and dry in a cool, well-ventilated.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional hints on technical system design.

See chapter 7; no measures exceeding the ones mentioned are necessary.
Ingredients with occupational exposure limits to be monitored

| EINECS-No. | Name | Typ | Value | Unit |
|------------|------|-----|-------|------|
|------------|------|-----|-------|------|

Personal protective equipment

Respiratory protection: Breathing apparatus in the event of aerosol or mist formation.

Hand protection:

Recommendation: Impermeable safety gloves made of nitrile as per EN 374; penetration time more than 480 min. at a thickness of 0.4 mm.

Eye protection: Safety glasses with side protection shield

General protective measures: Do not inhale gases/vapours/aerosols. Avoid contact with eyes and skin. At work do not eat, drink, smoke or take drugs. Keep away from foodstuffs and beverages. Wash hands before breaks and after work.

9. Physical and chemical properties

Form: liquid
Colour: varying
Odour: typical

| | | Value | Unit | Method |
|-------------------------------------|-------|--------------|-------------------|---------------|
| Flash point | | > 100 | °C | DIN 51758 |
| Viscosity: | 20 °C | n.b. | | |
| Density: | 20 °C | 1.10 | g/cm ³ | DIN 51757 |
| Lower explosion limit: | | n.b. | Vol. % | |
| Upper explosion limit: | | n.b. | Vol. % | |
| Solubility in water / method | | insoluble | | |
| Pourpoint: | | n.a. | °C | |
| Boiling point: | | n.a. | °C | |
| Bulk density: | | n.a. | kg/m ³ | |
| Vapour pressure: | 20 °C | n.a. | mbar | |
| pH value: | 20 °C | n.a. | | |

10. Stability and reactivity

Materials to avoid

Reactions with strong oxidising agents.
Danger of a sudden polymerisation when warmed up or exposed to UV radiation.

Hazardous decomposition products

No hazardous reactions when stored and handled according to prescribed instructions.

11. TOXICOLOGICAL INFORMATION

General remarks.

No toxicological data are available.

Experience in practice

Irritating to eyes, respiratory and skin.

It is possible that direct skin contact can cause skin irritation. The effect will depend on intensity and duration of contact as well as individual disposition. Certain individuals may develop sensitisation or allergic reaction after repeated exposure and have to be moved from the source of contact.



12. ECOLOGICAL INFORMATION

Do not discharge into the drains/surface waters/groundwater.
The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is not classified as dangerous for the environment.

13. Disposal considerations

Product

Waste code

080312

waste ink containing dangerous substances

The listed waste code numbers, according to the European Waste Catalogue (EWC), are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

Uncleaned packaging

Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

14. Transport information

"Product is not subject to the regulations for dangerous goods".

15. REGULATORY INFORMATION

Labelling in accordance with EC directives

The product is classified and labelled in accordance with EC directives/GefStoff V

Xi  Irritant

Contains:

n. a.

R phrases:

36/37/38

Irritating to eyes, respiratory system and skin.

52/53

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrases:

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In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of preparations:

n.a.

National regulations

Water hazard class / source 2
(VwVwS)

VbF (Germany) : -

Restriction of occupation.

Observe employment restrictions for young people.

Observe employment restrictions for child bearing mothers and nursing mothers.



16. Other information

| | |
|----------|--|
| 36 | Irritating to eyes. |
| 36/37/38 | Irritating to eyes, respiratory system and skin. |
| 50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

The data mentioned in the present safety data sheet correspond to our latest knowledge and experience and may be used to precise safety requirements for the different products. The information given therein is no warranty as to quality.

n.a.: not applicable
n.b.: not determined