

Brunel



Microscopes

NAPHRAX HIGH RESOLUTION DIATOM MOUNTANT

Buy online at

http://www.brunelmicroscopessecure.co.uk/acatalog/Diatom_Mountants.html

Information Sheet 2017

Naphrax is a synthetic resin dissolved in toluene. Because of its surface contact with the diatom frustules, its resolution qualities are equivalent to that of a mountant with a refractive index of 1.74 at the least.

Preparation of diatom strews on coverglasses

To make a strew a drop of water containing the cleaned diatoms is dropped onto a coverglass using a very fine glass pipette, so that the diatoms spread evenly. The water is allowed to evaporate at room temperature and the coverglass is then heated over a spirit lamp flame, so that the diatoms are incinerated onto the coverglass.

The Method of Mounting diatoms in Naphrax

A very small drop of Naphrax placed centrally on a microslide using a very fine rod. The coverglass is then lowered, diatoms downwards, onto the Naphrax. The slide is warmed over a spirit lamp flame until the mountant begins to bubble. It is then removed from the flame and allowed to cool and the bubbles will disappear. It is important that bubbling is not vigorous. The process is repeated until very few bubbles are formed. The slide can then be examined microscopically, before heating is completed. The mount is then warmed again to soften the mountant and to drive off any remaining solvent. Whilst warm the coverglass may be pressed down, using forceps, so that the minimum thickness of mountant remains under the coverglass. When the slide is cool the mountant will be hard, and excess mountant may be scraped off the slide. The mount should be ringed with Brunseal clear if the slide is to be kept. This gives a hard protective ring of cement on the edge of the coverglass.

NAPHRAX EXPORT PACKS

Because of its toluene content Naphrax solution cannot be sent by air-mail, so special export packs containing solid Naphrax are available, the toluene being added by the user.

Dilution Instructions:

Loosen the cap of the export pack and enclose the pack in a sealed polythene bag. This should be placed in a laboratory oven or basin of hot water at 80 to 100 deg. C. & allow up to 2 hours for the 200ml Export pack to soften. When the Naphrax runs freely, remove from the oven and, taking all due precautions associated with using toluene, add the appropriate amount of toluene to the pack, screw the cap on firmly and shake until solution is complete.

200ml Export Pack : 80ml toluene is required
15 ml Export Pack : 6ml toluene is required

NAPHRAX LTD

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY Product

name : Naphrax: High resolution diatom mountant
Brand : Naphrax Ltd. Company :
Naphrax Ltd.

40 High Street
Harrold
Bedford
MK43 7DQ
UNITED KINGDOM
Telephone/Fax : +44 (0)1234 721383
Emergency Phone : +44 (0)7757 086306
E-mail address : mr.pjkelly@gmail.com

2. HAZARDS IDENTIFICATION

2.1: Classification of the substance or mixture

According to European Directive 1272/2008/EC this product is not classified as dangerous goods.

2.2 Label elements

Not a hazardous substance. The product does not need to be labeled in accordance with EC directives or respective national laws.

2.3 Other Hazards

This substance contains no components consistent to be either persistent, bioaccumulative and toxic (PBT), or persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Potentially absorbed through the skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Naphrax

Naphrax is a naphthalene/formaldehyde thermoplastic polymer. It contains approximately 6% of the plasticiser dimethyl phthalate. Naphrax is neutral, non hazardous and non-corrosive and is usually diluted with toluene for use.

Structure: $[-CH_2-C_{10}H_6-]_n$ with some cross linking

Contains:

Dimethyl Phthalate

Empirical Formula: $C_{10}H_{10}O_4$

Molecular formula: $C_6H_4-1:2-(CO_2CH_3)_2$

CAS: 131-11-3

EC No: 205-011-6

Composition: 6%

Synonyms: Phthalic Acid, Dimethyl Ester, 1:2-Benzene Dicarboxylic Acid, Dimethyl Ester

4. FIRST AID MEASURES

Because of the small quantities used it is unlikely that a significant exposure would be encountered, however the following first aid measures should be noted.

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air and rest. If not breathing, give artificial respiration. Consult physician.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minute.

If swallowed

Seek medical attention.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Extinguishers: Use carbon dioxide, chemical powder or foam.

Thermal Decomposition: Toxic fumes of carbon monoxide may be produced

Special protective equipment for fire-fighters

Self-contained breathing apparatus and protective clothing may be required.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear respirator, goggles and rubber gloves. Absorb on and or vermiculite and place in containers for disposal.

Ventilate area and wash spill site after pick-up is complete. **Environmental**

precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Wear dust mask, chemical safety goggles. Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Ventilate area and wash spill site after pick up is complete.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Use in a well-ventilated area and use fume-extraction equipment where possible. Normal measures for preventive fire protection.

Conditions for safe storage

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

Recommended storage temperature: 10 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the substance used at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form: Resin

Colour: Clear, Amber

Safety data pH: no data available

Melting point: no definitive melting point, softens with increased heat. Liquefies between 80-100°C approx

Boiling point: no data available

Flash point: no data available

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Soluble in toluene, xylene, mesitylene

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid no data available

Materials to avoid

Incompatible with oxidising agents, acids and alkalis

Hazardous decomposition products

no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

For Dimethyl Phthalate: LD50 Oral - rat - 8,239 mg/kg

LD50 Dermal - rabbit - > 11,940 mg/kg

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available **Germ**

cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. **Reproductive toxicity**

no data available

For Dimethyl Phthalate: Possible risk of congenital malformation in the fetus.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Dimethyl Phthalate

Burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Central nervous system depression, Gastrointestinal disturbance, Kidney injury may occur.

Additional Information

12. ECOLOGICAL INFORMATION

Toxicity no data available

Persistence and degradability no data available

Bioaccumulative potential no data available

Mobility in soil no data available

PBT and vPvB assessment no data available
Other adverse effects no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all governmental, federal, state, provincial and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

The following general precautions should be observed:

1. Inexperienced personnel should not handle chemicals except under strictest supervision.
2. The label should always be read, checking that the chemical is that required.
3. Do not eat, drink or smoke in areas where chemicals are handled or used.
4. Seal container after use.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Robert Charles Laboratories Ltd., shall not be held liable for any damage resulting from handling or from contact with the above product.