

SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET

Last changed: 01/11/2005

Internal No.:

Replaces date: 24/05/2005

Substrate B

1. IDENTIFICATION OF PRODUCT AND COMPANY



TRADE NAME	Substrate B
APPLICATION	Laboratory chemicals

Producer/importer

Company	Dynal Biotech Ltd.
Address	11 Bassendale Road-Croft Business Park Bromborough
Postal code	Wirral CH62 3QL
Country	UK
Telephone	+44 151 346 1234
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Emergency Telephones

Emergency Phone	Information
+44 08 45 46 47	NHS Direct

2. COMPOSITION/INFORMATION ON INGREDIENTS



No	Ingredient name	EC No.	CAS No.	Conc. (wt%)	Classification
1	water	231-791-2	7732-18-5	60 - 80 %	No classification required
2	3,3',5,5'-tetramethylbenzidine	259-364-6	54827-17-7	0 - 1 %	Xi,R36/37/38
3	N,N-dimethylformamide, dimethyl formamide	200-679-5	68-12-2	20 - 40 %	T,Repr. Cat. 2,R61 - R20/21 - R36
Legend: T+=Very toxic, T=Toxic, C=Corrosive, Xn=Harmful, Xi=Irritant, E=Explosive, O=Oxidising, F+=Extremely flammable, F=Highly flammable, N=Dangerous for the environment, Carc. = Carcinogenic, Mut. = Mutagenic, Repr. = Reproductive					

INGREDIENT COMMENTS

R-phrases mentioned in section 2 are listed up in section 16 with complete text.

3. HAZARDS IDENTIFICATION



Toxic

HEALTH

May cause harm to the unborn child.

Harmful by inhalation and in contact with skin.

Irritating to eyes.

FIRE AND EXPLOSION

Not flammable, but combustible.

ENVIRONMENT

Not regarded as dangerous for the environment.

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4. FIRST AID MEASURES



GENERAL

Move to fresh air, keep the patient warm and at rest. If the patient is unconscious, but breathing, maintain open airways and place in stable position on one side. Give artificial respiration and/or heart massage, if necessary.

INHALATION

See "General". Provide rest, warmth and fresh air. Contact physician.

SKIN CONTACT

Promptly flush contaminated skin with soap or mild detergent and water. Promptly remove clothing if penetrated and flush the skin with water. Continue to flush for at least 15 minutes. Contact physician.

EYE CONTACT

Immediately rinse with water. Remove any contact lenses and continue rinsing with water for at least 15 minutes (keep the eyelids open). Contact physician if symptoms appears.

INGESTION

DO NOT INDUCE VOMITING! Rinse nose, mouth and throat with water. Drink a few glasses of water. Contact physician if symptoms appears.

5. FIRE-FIGHTING MEASURES



EXTINGUISHING MEDIA

Foam, dry chemical, carbon dioxide (CO₂).

EXTINGUISHING METHODS

Protect against heat, use water to cool containers. Move container from fire area if it can be done without risk. Fight fire from a well-protected position.

FIRE AND EXPLOSION HAZARDS

Not flammable, but combustible. Fire causes formation of toxic gases. Carbon dioxide (CO₂). Carbon monoxide (CO). Nitrogen oxides (NO_x).

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS

General: Evacuate all personnel, use protective equipment for fire fighting. Use a portable breathing apparatus when the product is involved in a fire.

6. ACCIDENTAL RELEASE MEASURES



PERSONAL PRECAUTIONS

Provide good ventilation. Wear necessary protective equipment. Avoid contact with the skin and eyes. Keep unauthorized personnel away.

ENVIRONMENTAL PRECAUTIONS

Bank in the discharge. Prevent discharges into the sewage system, watercourses or ground.

METHODS FOR CLEANING UP

Absorb in an inert material (sand, vermiculite, etc.) and collect into a suitable container. Collect and reclaim or dispose in sealed containers in licensed waste. Clean with water.

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7. HANDLING AND STORAGE

HANDLING PRECAUTIONS

May cause harm to the unborn child. Pregnant women must not be exposed to the product.

HANDLING ADVICE

Avoid spilling, skin and eye contact. Use personal protective equipment. Avoid inhalation of vapours.

STORAGE

Keep in cool, dry, ventilated storage and closed containers. Keep away from heat, sparks and open flame.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

EXPOSURE CONTROL

Provide good ventilation. Wash at the end of each work shift and before eating, smoking and using the toilet. Eye wash facilities and emergency shower must be available when handling this product.

RESPIRATORY PROTECTION

Respirator with combined gas/particle filter (A/P2). Use breathing apparatus in the event of insufficient ventilation.

EYE PROTECTION

Use tight-fitting protective goggles.

HAND PROTECTION

Use protective gloves made of: Butyl rubber. PTFE (Teflon). Breakthrough time not determined as preparation. Change gloves often.

PROTECTIVE CLOTHING

Wear suitable protective clothing.

OEL value

Ingredient name	Cas nr.	Interval	ppm	mg/m3	Year	Notes
N,N-dimethylformamide, dimethyl formamide	68-12-2	8 h	10,0	30,0	2005	
N,N-dimethylformamide, dimethyl formamide	68-12-2	15 min.	20,0	610,0	2005	

RECOMENDED MONITORING PROCEDURES

When evaluating exposure, consider suitable method for sampling, and evaluate if stationary or mobile sampling is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Liquid.

Water solubility

Soluble in water.

10. STABILITY AND REACTIVITY

STABILITY

Stable under recommended storage and handling conditions.

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MATERIALS TO AVOID

Avoid contact with strong oxidizers.

11. TOXICOLOGICAL INFORMATION



INHALATION

Harmful by inhalation. High concentrations may irritate the respiratory organs and cause headache, tiredness, dizziness and impaired reactions.

SKIN CONTACT

Harmful in contact with skin. The product is absorbed through the skin and may cause symptoms similar to those caused by inhalation.

EYE CONTACT

Irritating to eyes.

INGESTION

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

REPRODUCTIVE TOXICITY

May cause harm to the unborn child.

12. ECOLOGICAL INFORMATION



ECOTOXICITY

Not regarded as dangerous for the environment.

MOBILITY

Water soluble.

DEGRADABILITY

Expected to be readily biodegradable.

ACCUMULATION

Not expected to bioaccumulate.

CONCLUSION

Prevent discharges into the sewage system, watercourses or lakes.

13. DISPOSAL CONSIDERATIONS



GENERAL REGULATIONS

Treat as dangerous waste. Dispose of as hazardous waste in compliance with local and national regulations. Empty packaging is taken for material recycling, with labelling and warning labels left in place.

CATEGORY OF WASTE

EWC must be evaluated at the end of usage, possibly EWC: 16 05 06 laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

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14. TRANSPORT INFORMATION



Classified as Dangerous Goods:



Yes



No



N/A

OTHER INFORMATION

Not classified as dangerous goods.

15. REGULATORY INFORMATION



Toxic

EC-Label



No



Yes



N/A

COMPOSITION

3,3',5,5'-tetramethylbenzidine (0 - 1 %), N,N-dimethylformamide, dimethyl formamide (20 - 40 %)

R-PHRASES

Nr.	R-Phrase text
R20/21	Harmful by inhalation and in contact with skin.
R61	May cause harm to the unborn child.
R36	Irritating to eyes.

S-PHRASES

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S53 Avoid exposure - obtain special instructions before use.

OTHER LABELING PHRASES

REFERENCES

Directive 1999/45/EC.

Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances.

Directiv 2001/58/EC (91/155/EEC).

European Waste Catalogue (EWC 2002).

Regulations relating to transport of dangerous goods: ADR, RID, IMDG and IATA/ICAO.

Occupational exposure limits (EH40/2002)

EU-DIRECTIVES

EU-directiv: 1999/45/EC. EU-directiv: 91/155/EEC. EU-directiv: 2001/58/EC.

16. OTHER INFORMATION



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VENDOR NOTES

The material safety data sheet is quality assured by Pride Chess in accordance with Norwegian regulations. Pride Chess applies a quality assurance system in accordance with ISO 9001:2000.

Revised by: Solvor Hetlelid

Pride Chess is not responsible for any incorrect information from the producer of this product.

LIST OF RELEVANT R-PHRASES

Nr.	R-Phrase text
R20/21	Harmful by inhalation and in contact with skin.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R61	May cause harm to the unborn child.

ISSUED: 24/05/2005

QUALITY ASSURANCE OF SDS

The information developed by Dynal Biotech ASA relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Dynal Biotech ASA has undertaken a quality assurance and warrants that the information in this data sheet is to the best of Dynal Biotech ASA knowledge and believed accurate and reliable as of the date indicated. It is user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

REVISION HISTORY

Version	Rev. date	Responsible	Changes
1.0.0	24/05/2005	Marta Teigland	Preparation
2.0.0	01/11/2005	Solvor Hetlelid	Revision, regulations

SDS prepared by

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