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Material Safety Data Sheet

SECTION 1:CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: NBT
Company: Suzhou YACOO Science Co., Ltd.
Address: No.128,FangZhou Road,Suzhou Industrial Park,China
Tel: 0512-87182055
Fax: 0512-87182056

SECTION 2: Hazards identification

Summary of emergency

crystalline light yellow Harmful if swallowed., Causes skin irritation., Causes serious eye irritation., May cause respiratory irritation., May cause damage to organs (Eyes, Central nervous system). Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. Call in physician. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Consult a physician. After eye contact: rinse out with plenty of water., Call in ophthalmologist., Remove contact lenses. After swallowing: immediately make victim drink water (two glasses at most)., Consult a physician. Combustible. Risk of dust explosion. Development of hazardous combustion gases or vapours possible in the event of fire. Violent reactions possible with: Strong oxidizing agents

2.1GHS Classification

Acute toxicity, Oral (Category 4), H302 Skin corrosion/irritation (Category 2), H315 Serious eye damage/eye irritation (Category 2A), H319 Specific target organ toxicity - single exposure (Category 2), Eyes, Central nervous system, H371 Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335 For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2GHS Label elements, including precautionary statements

Pictogram

Signal word Warning

Hazard statement(s)

H302Harmful if swallowed.

H315Causes skin irritation.

H319Causes serious eye irritation.

H335May cause respiratory irritation.

H371May cause damage to organs (Eyes, Central nervous system). Precautionary statement(s)

Prevention



P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ eye protection/ face protection.

Response

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor. P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Physical and chemical hazards

Referring to current information, no physical or chemical hazard.

2.4 Health hazards

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H371 May cause damage to organs.

H335 May cause respiratory irritation.

2.5 Environmental hazards

Referring to current information, no environmental hazard.

2.6 Other hazards - none

SECTION 3: Composition/information on ingredients

Substance / Mixture: Substance

3.1 Substances

Synonyms: 2,2'-bis(4-Nitrophenyl)-5,5'-diphenyl-3,3'-(3,3'-dimethoxy-4,4'-diphenylene)ditetrazolium chloride

3,3'-(3,3'-Dimethoxy-4,4'-biphenylene)bis[2-(4-nitrophenyl)-5-phenyl-2H-tetrazolium chloride]

p-Nitro-Blue tetrazolium chloride p-Nitrotetrazolium blue

NBT

Nitro BT

Molecular weight: 817.64 g/mol

Hazardous ingredients

Component	Classification	Concentration
5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride	Acute toxicity Category 4; Skin corrosion/irritation Category 2; Serious eye damage/eye irritation Category 2A; Specific target organ toxicity - single exposure Category 3; H302, H315, H319, H335	<= 100 %
Methanol	Flammable liquids Category 2; Acute toxicity Category 3; Specific target organ toxicity - single exposure Category 1; H225, H301, H331, H311, H370	>= 1 - < 10 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

4.4 Notes to physician

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Carbon oxides Nitrogen oxides (NO_x) Hydrogen chloride gas Carbon oxides Nitrogen oxides (NO_x)
Hydrogen chloride gas Combustible.

Risk of dust explosion.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities Storage conditions

Tightly closed. Dry.

Storage stability

Recommended storage temperature 2 - 8 ° C

Light sensitive.

Storage class

Storage class (TRGS 510): 11: Combustible Solids

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	PC-TWA	25 mg/m ³	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
	Remarks	Skin		
		PC-STEL	50 mg/m ³	Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.
		Skin		

Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
Methanol	67-56-1	Methanol	15 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift (As soon as possible after exposure ceases)			

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment Eye/face protection

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

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Body Protection

protective clothing

Respiratory protection

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance Form: crystalline Color: light yellow
- b) Odor No data available
- c) Odor Threshold No data available
- d) pH No data available
- e) Melting point/freezing point 189 ° C
- f) Initial boiling point and boiling range No data available
- g) Flash point No data available
- h) Evaporation rate No data available
- i) Flammability (solid, gas) No data available
- j) Upper/lower flammability or explosive limits No data available
- k) Vapor pressure No data available
- l) Vapor density No data available
- m) Density No data available
- Relative density No data available
- n) Water solubility soluble
- o) Partition coefficient: n-octanol/water No data available
- p) Autoignition temperature No data available
- q) Decomposition temperature No data available
- r) Viscosity
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
- s) Explosive properties No data available
- t) Oxidizing properties none
- u) Particle characteristics
- u) Particle characteristics

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.2 Possibility of hazardous reactions

Violent reactions possible with:
Strong oxidizing agents

10.3 Conditions to avoid
no information available

10.4 Incompatible materials
Strong oxidizing agents

10.5 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Acute toxicity

Acute toxicity estimate Oral - 446.57 mg/kg

(Calculation method)

LD50 Oral - Mouse - 2,000 mg/kg (5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Remarks: (RTECS)

Acute toxicity estimate Inhalation - 4 h - > 40 mg/l - vapor (Calculation method)

Acute toxicity estimate Dermal - > 5,000 mg/kg (Calculation method)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation. (5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Gastrointestinal disturbance, May cause convulsions. (5,5'-

diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Quantitative data on the toxicity of this product are not available.

(5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Further toxicological data:

(5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

(5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Further data:

(5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

Handle in accordance with good industrial hygiene and safety practice. (5,5'-diphenyl-3,3'-bis(4-nitrophenyl)-2,2'-(3,3'-dimethoxybiphenyl-4,4'-ylene)ditetrazolium dichloride)

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

14.1 UN number

ADR/RID: -IMDG: -IATA-DGR: -

14.2 UN proper shipping name ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA-DGR: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA-DGR: -

14.5 Environmental hazards

ADR/RID: noIMDG Marine pollutant: noIATA-DGR: no

14.6 Special precautions for user

14.7 Incompatible materials



Strong oxidizing agents

Further information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Law on the Prevention and Control of Occupational Diseases Regulations on Safety Management of Hazardous Chemicals

Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

SECTION 16: OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

