



THE CARBON NANOTUBE SPECIALIST

NANO-ENGINEER YOUR FUTURE

Date: 2 June 2009

BIOCYL™ PRIMER P4 / MSDS / Page 1/7

Revision N°2

Supersedes: 17 March 2009

BIOCYL™ PRIMER P4 Material Safety Data Sheet

1. Identification of the product and the company

Trade Name: BIOCYL™ PRIMER P4
Type of product: Primer for adhesion
Company: Nanocyl sa
Rue de l'Essor, 4
B-5060 Sambreville
Belgium
Phone: + 32 71 750 380 (office hour)
Fax: + 32 71 750 390
E-mail: info@nanocyl.com

2. Hazards identification

Hazard designation: **Xn** Harmful
F Highly flammable
Health hazards: **R11** Highly flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

3. Composition/information on ingredients

Components	N° CAS	% (wt.)	Classification
Trimethoxy (2-(7-oxabicyclo(4.1.0)hept-3-yl) ethyl) silane	3388-04-3	5 %	T R45/46
Titanium tetrabutanolate	5593-70-4	5 %	Xi R10 R36/38
7-Octenyltrimethoxysilane	52217-57-9	5 %	Xi R36/37/38
Platinum complexes	68478-92-2	10%	Xi R36/37/38
Naphtha	8030-30-6	75 %	F Xn R 10 R20/21 R38

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4. First aid measures

After skin contact:	In case of skin contact, rinse thoroughly with soap and plenty of water. Obtain medical attention if irritation persists.
Eye contact:	Hold the eyes open and rinse with water for a sufficiently long period of time (at least 10 minutes). Obtain medical attention if pain, blurred vision, swelling, burning or redness persist.
After inhalation:	If vapours are inhaled, move the person into fresh air, keep warm and allow to rest. If breathing is difficult, oxygen may be administered and medical attention should be obtained.
Ingestion:	Do not induce vomiting. Rinse mouth with water and obtain medical attention. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Suitable extinguishing media:	On large fires use alcohol-type or universal-type foam. On small fires use alcohol-type or universal-type foam, CO ₂ .
Specific hazards:	Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks or ignition sources at locations distant from product handling point. Vapors from this product may settle in low or confined areas, or travel a long distance to an ignition source and flash back explosively.
Protective equipments:	Wear self-contained breathing apparatus. Wear suitable protective clothing.
Combustion products:	May form toxic materials, carbon monoxide, carbon dioxide, silica.

6. Accidental release measures

Personal precautions:	Equip cleanup crew with proper protection (see chapter 8). Avoid inhaling mists and vapours. Avoid contact with eyes and skin.
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Environmental precautions: Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers. Do not empty into drains.

Spill Procedures: Approach suspected leak areas with caution. The spilled product produces a slippery surface. Cover with dry and non-flammable inert absorbent material and collect for disposal.

7. Handling and storage

Handling: Good ventilation of the workplace required. Handle in accordance with good industrial hygiene and safety procedures. Contact with the skin and the eyes must be avoided. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities.

Storage: Keep only in the original closed container in a dedicated place. Keep containers in a cool, dry place with adequate ventilation. Keep away from open flames and high temperature. Ensure that all equipment is electrically earthed.

8. Exposure controls / personal protection

Components with workplace parameters:

Components	CAS number	Exposure limits
Naphtha	8030-30-6	100 ppm (8h TWA)
Butanol	71-36-3	50 ppm (8h TWA)
Methanol	67-56-1	200 ppm (8h TWA)

Personal protective equipment:

Hand protection: Chemical protective gloves.

Skin and body protection: Wear chemical-resistant gloves and other clothing as required to minimize contact.

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Respiratory protection: Wear appropriate respirator when ventilation is inadequate or in case of prolonged exposure or in other circumstances where the TWA may be approached or exceeded.

Eye protection: Chemical goggles or safety glasses.

In case of contact, ensure prompt removal from eyes, skin and clothing. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and leaving work. Facilities storing or utilizing this material should be equipped with an eyewash facility.

9. Physical and chemical properties

Form and Color:	water white liquid
Odor:	solvent
Boiling point:	~ 100 °C
Melting point:	not determined
Vapor pressure:	~25 mmHg at 25 °C
Vapor density:	~3.8 (air = 1)
Flash point:	17 °C (Closed Cup)
Density:	0.77 g/ml
Solubility in water:	not determined

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. Stability and reactivity

Stability: Stable under normal conditions. Hazardous polymerization will not occur.

Materials to avoid: Can react with strong oxidizing agents, moisture.

Conditions to avoid: Avoid open flames and ignition sources. Avoid water, moisture.

Hazardous combustion or decomposition products: Silica, carbon monoxide and dioxide and traces of incompletely burned carbon compounds. Under the effect of humidity, can produce methanol and butanol.

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11. Toxicological information

- Ingestion:** Swallowing may cause nausea, abdominal discomfort, vomiting and diarrhea. Swallowing of large quantity may lead to central nervous system disturbances, such as convulsions.
- Inhalation:** Cause irritation of the respiratory tract, experienced as nasal discomfort and discharge with chest pain and coughing. Dizziness and drowsiness may occur.
- Skin:** No evidence of adverse effects from available information.
- Eyes:** High vapor concentrations may cause irritation, experienced as stinging, excess blinking and tear production, with excess redness of the conjunctiva.

12. Ecological information

- Environmental fate distribution:** Organic solvents may evaporate into the atmosphere, where they degrade. Siloxanes are removed from water by sedimentation or binding to sewage sludge. In soil, siloxanes are degraded.
- Ecotoxicity effects:** Complete information not yet available.

13. Disposal considerations

- Product:** If the material becomes a waste, consider it as special waste. It can be destroyed by incineration in accordance with local, state and federal regulations.
- Container:** Empty containers can be landfilled after cleaning, when in compliance with the Environmental Protection Regulation.

14. Transport information

ADR/RID:

UN-No: 1268
Class: 3

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Packaging group: II
Risk No.: 33
ADR/RID-Labels: 3
Proper shipping name: Petroleum distillates, nos
Contains: Naphta solution

IMDG:

UN-No: 1268
Class: 3
Packaging group: II
Labels: 3
Proper shipping name: Petroleum distillates, nos
Contains: Naphta solution

IATA :

UN-No: 1268
Class: 3
Packaging group: II
Labels: 3
Proper shipping name: Petroleum distillates, nos
Contains: Naphta solution

15. Regulatory information

Labelling according to EEC Directive

Symbol(s) : **Xn** Harmful
F Highly flammable

R Phrase(s) : **R11** Highly flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

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S Phrase(s) :	S3	Keep in a cool place.
	S7/8	keep container tightly closed and dry.
	S15	Keep away from heat.
	S16	Keep away from sources of ignition-No smoking.
	S24/25	Avoid contact with skin and eyes.
	S41	In case of fire and/or explosion do not breathe fumes.

16. Other information

R-phrases components

R10	Flammable.
R36/37/38	Irritating to eyes, respiratory system and skin.
R45	May cause cancer.
R46	May cause heritable genetic damage.

The contents and format of this MSDS are in accordance with EEC Regulation REACH 1907/2006 art. 31.

Disclaimer: Nanocyl s.a. provides the information contained herein in good faith and makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material.

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