



THE CARBON NANOTUBE SPECIALIST

NANO-ENGINEER YOUR FUTURE

Date: 2 June 2009

Revision N°2

BIOCYL™ PRIMER P1 / MSDS / Page 1/7

Supersedes: 17 March 2009

BIOCYL™ PRIMER P1 Material Safety Data Sheet

1. Identification of the product and the company

Trade Name: BIOCYL™ PRIMER P1
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: **Xi** Irritant

Health hazards: **R10** Flammable.
R36 Irritating to eyes.
R53 May cause long-term adverse effects in the aquatic environment.

3. Composition/information on ingredients

Components	N° CAS	% (wt.)	Classification
Tetrakis(2-butoxyethyl) orthosilicate	18765-38-3	5 %	Xi R38
Titanium tetrabutanolate	5593-70-4	5 %	Xi R10 R36/38
Tetrapropyl orthosilicate	682-01-9	5 %	Xi R36/38
Octamethyltrisiloxane	107-51-7	85 %	R10 R53

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.

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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 AFFF alcohol compatible foam or water spray. On small fires use AFFF alcohol compatible foam, CO₂ or water spray (fog).

Specific hazards: Cool fire exposed containers with water. Fire burns more vigorously than would be expected. Vapors are heavier than air and can travel along ground to remote ignition sources. Vapors may form explosive mixtures with air.

Protective equipments: Wear self-contained breathing apparatus. Wear suitable protective clothing.

Combustion products: May form toxic materials, carbon monoxide, carbon dioxide, silica, formaldehyde.

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.

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.

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Spill Procedures: Approach suspected leak areas with caution. The spilled product produces an extremely 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:

Component	CAS number	Exposure limits
Octamethyltrisiloxane	107-51-7	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.

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.

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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:	colorless liquid
Odor:	slight
Boiling point:	> 100°C
Melting point:	not determined
Viscosity:	1 cSt at 25°C
Flash point:	27 °C (Closed Cup)
Density:	0.82 g/ml at 25°C

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:	Reacts with strong oxidizing agents.
Conditions to avoid:	None established.
Hazardous combustion or decomposition products:	Thermal breakdown of this product may evolve the following decomposition products: silica, carbon monoxide and carbon dioxide, formaldehyde and traces of incompletely burned carbon compounds.

11. Toxicological information

Ingestion:	Swallowing large amounts may cause digestive discomfort.
Inhalation:	Inhalation of large amount may be harmful.
Skin:	Can irritate on prolonged or repeated contact.

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Eyes: Irritating.

12. Ecological information

Environmental fate and distribution: Low molecular weight volatile siloxanes have very low water solubility and evaporate to air. Low molecular weight volatile siloxanes in air are degraded by reaction with hydroxyl radicals, which is the dominant degradation process for most chemicals in the atmosphere. Low molecular weight volatile siloxanes in soil are removed by several simultaneously occurring processes including volatilisation, hydrolysis, and clay-catalysed degradation.

Ecotoxicity effects: No acute fish toxicity (96h) is predicted. May cause long-term adverse effects in the aquatic environment.

Fate and effects in waste Water treatment plants: No adverse effects on bacteria. The siloxanes in this product do not contribute to the BOD. Low molecular weight volatile siloxanes are efficiently removed (>90%) during wastewater treatment with approximately equal amounts going to the atmosphere and the sludge. Low molecular weight volatile siloxanes in treated wastewater effluent will be bound to particulate matter because of very low water solubility.

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: 1993

Class: 3

Packaging group: III

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Risk No.: 30
ADR/RID-Labels: 3
Proper shipping name: Flammable liquid, nos
Contains: Octamethyltrisiloxane

IMDG:

UN-No: 1993
Class: 3
Packaging group: III
Labels: 3
Proper shipping name: Flammable liquid, nos
Contains: Octamethyltrisiloxane

IATA :

UN-No: 1993
Class: 3
Packaging group: III
Labels: 3
Proper shipping name: Flammable liquid, nos
Contains: Octamethyltrisiloxane

15. Regulatory information

Labelling according to EEC Directive

Symbol(s) : **Xi** Irritant

R Phrase(s) : **R10** Flammable.
R36 Irritating to eyes.
R53 May cause long-term adverse effects in the aquatic environment.

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S Phrase(s) :	S2	Keep away from children.
	S23	Do not breathe vapour.
	S24	Avoid contact with skin.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S51	Use only in well-ventilated areas.
	S61	Avoid release to the environment. Refer to special instruction/safety data sheets.

National legislation/regulation

EINECS All ingredients listed or exempt.

TSCA All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

16. Other information

R-phrases components

R38 Irritating to skin.

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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