



Date of issue: 28.10.2004 Replaces Data Sheet of : ---
 "**" alterations as compared to previous version; n.ap. = not applicable; n.av. = not available



1 Identification of Substance / Preparation and Company

- 1.1 **Identification of Substance or Preparation**
 Trade Name : Nano-E2C 113
 Article No. : n.av.
 Preparation No. : n.av.
- 1.2 **Use of the substance / preparation:**
 Handle coating
- 1.3 **Company / Supplier Identification**
- 1.3.1 **Address of the Company / Supplier:**
 Nanogate Coating Systems GmbH, Gewerbepark Eschberger Weg, D- 66122 Saarbrücken
 Telephone : +49-681-980 52-0, Fax : +49-681-980 52-52
- 1.3.2 **Responsible :**
 Chemie & Vorschrift, Kannheideweg 35, D-53123 Bonn-Duisdorf
- 1.4 **Emergency - Telephone**
 Information Centre Specialising in Symptoms of Poisoning Emergency - Telephone of Company / Undertaking
 Telephone : ++49 - 761 - 19 240 Telephone : +49-681-980 52-0

2 Composition / Information on Ingredients

- 2.1 **Chemical Characterisation:**
 Mixture of organic solvents with special additives
 - 2.2 **Dangerous Ingredients:**
- | CAS - No. | Index - No. | EEC - No. | Material | m% - range | Symbol | R - phrases |
|-----------|--------------|-----------|--------------------|------------|--------|---------------|
| 67-63-0 | 603-117-00-0 | 200-661-7 | 2-Propanol | > 75 % | F, Xi | R 11-36-67 |
| 78-10-4 | 014-005-00-0 | 201-083-8 | Tetraethylsilicate | 5 - 10% | Xn | R 10-20-36/37 |

Remarks: Classification and labelling of a product is indicated under item 15.

3 Hazards Identification

- 3.1 **For Humans** (additional information is given under item 11) :
 Highly flammable. May form explosive vapour-air mixture. Degreases skin. Irritating to eyes. Vapours may cause drowsiness and dizziness. May be harmful if inhaled. Inhalation of mist may cause irritation of the respiratory tract.
- 3.2 **For the Environment :**
 Product may soil public waters by increasing pH.. Raising overall contamination. hydrocarbons
- 3.3 **For Materials:**
 None.

4 First Aid Measures

- 4.1 **Inhalation:**
 Remove from danger area and provide for fresh air.
 In the event of symptoms occurring, seek medical treatment.
- 4.2 **Skin Contact :**
 Wash with soap and water.
 In the event of symptoms occurring, seek medical treatment.
- 4.3 **Eye Contact :**
 Flush eyes out immediately with large amounts of water with eye lids lifted.
 Summon a doctor immediately.
- 4.4 **Ingestion :**
 Rinse mouth out and drink plenty of water.
 In the event of symptoms occurring, seek medical treatment.
- 4.5 **Note to Physician:**
 The following symptoms may occur: headache, confusion. Symptomatic treatment.
- 4.6 **Special Equipment:**
 n.av.



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5 Fire Fighting Measures

- 5.1 **Suitable Extinguishing Media :** Foam, dry chemicals, CO₂, water spray jet
- 5.2 **Extinguishing Media to Avoid :** None.
- 5.3 **Fire and Explosion Hazards :**
 In case of fire, product may form: Organic crackproducts and carbon oxides, nitrogenoxides (NO_x)
- 5.4 **Additional Information :** None.
- 5.5 **Special Protective Equipment :**
 Wear positive pressure self-contained breathing apparatus.
 Wear full protective clothing.

6 Accidental Release Measures

- 6.1 **Personal Precautions :**
 See No. 8.3 Personal Protective Equipment. Keep away from sources of ignition.
- 6.2 **Environmental Precautions and Methods for Cleaning up :**
 Do not allow larger quantities to enter drainage. Inform responsible authorities after accidental conduction of larger quantities. Soak up with absorbent material. Flush away residues with water.
- 6.3 **Further Information :** None.

7 Handling and Storage (For national regulations refer to item 15.2)

- 7.1 **Handling**
 - 7.1.1 **Precautions for Safe Handling :**
 Provide sufficient ventilation. Keep container tightly closed. Close container straight after use or if empty.
 - 7.1.2 **Precautions in Case of Fire and Explosion :**
 Keep away from sources of ignition, do not smoke. Vapours may form an explosive mixture with air.
- 7.2 **Storage**
 - 7.2.1 **Storage Instructions :**
 Floor must be resistant against solvents.
 - 7.2.2 **Store away from :**
 Store away from explosive substances and products. oxidizers.
 - 7.2.3 **Further Information on Storage Conditions :**
 Provide good room ventilation even at ground level (vapours are heavier than air). Protect from sun. Protect from warming up / overheating.
 - 7.2.4 **Storage Class :** 3A (VCI - Concept)

8 Exposure Controls and Personal Protection

- 8.1 **Information on System Design :**
 Provide for sufficient exhaustion. Provide personal protective equipment.
- 8.2 **Exposure Limits:**
 - 8.2.1 **Material**

	Limit Value :
2-Propanol	MAK 200 ppm; BAT Aceton, 50 mg/l, B, b, U, b
Tetraethylsilicate	MAK 20 ppm
- 8.3 **Personal Protective Equipment**
 - 8.3.1 **General Protection and Hygiene :**
 Avoid contact with eyes and skin. Do not eat, drink or smoke during work. Take off contaminated, saturated clothing immediately. Do not inhale vapours. Wash hands before breaks and after work.
 - 8.3.2 **Respiratory Protection :** If ventilation is insufficient, wear respiratory protection (Short term: Filter A)
 - 8.3.3 **Hand Protection :** Gloves (solvent-resistant) (Butyl, Permeationstime > 6h)
 - 8.3.4 **Eye Protection :** Goggles
 - 8.3.5 **Skin Protection :** No.
 - 8.3.6 **Further Information :** Refer to special restrictions in wearing protective equipment

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9 Physical and Chemical Properties

9.1	Appearance		
9.1.1	Form : liquid	9.1.2 Colour : colourless	9.1.3 Odour : alcohol-like
9.2	Safety Relevant Data		
9.2.1	pH-value, undiluted :	n.av.,	pH-value, 1% aqueous solution : 9 - 10 (50%)
9.2.2	Boiling point / Boiling - range (°C) :	n.av.,	Melting point / Melting range (°C) : n.av.
9.2.3	Flash point (°C, c.c.) :	12	
9.2.4	Flammability (EEC A10/A13) :	No.	
9.2.5	Ignition temperature (°C) :	n.av.	
9.2.6	Autoflammability (EEC A16) :	None.	
9.2.7	Oxidising properties :	No.	
9.2.8	Explosion hazard :	No.	
9.2.9	Explosion limits (Vol.%) lower :	n.av.,	upper : n.av.
9.2.10	Vapour pressure :	n.av.	
9.2.11	Density (g/ml) :	0,823	
9.2.12	Solubility (in Water) :	miscible	Soluble in : most organic solvents.
9.2.13	Partition coefficient, n-Octanol/Water :	n.av.	
9.2.14	Viscosity :	12 - 16 mPa*s	
9.2.15	Solvent separation test :	n.av.	
9.2.16	Solvent content (m %) :	> 75 %	
9.3	Further Data		
9.3.1	Thermal decomposition (°C) :	n.av.	
9.3.2	Vapour density (Air = 1) :	Vapours are heavier than air.	
9.3.3	Evaporation rate :	n.av.	

10 Stability and Reactivity

10.1	Conditions to Avoid :	
	Sparks, flames, static charge	
10.2	Materials to Avoid :	
	Contact with oxidizers may lead to strong reactions.	
10.3	Hazardous Decomposition Products :	
	No dangerous decomposition products when properly handled.	
10.4	Further Information :	
	None.	

11 Toxicological Information

11.1	Toxicological Tests :	
11.1.1	Acute Health Effects :	
	Inhalation, LC ₅₀ rat, (mg/l/4h) :	n.av.
	Ingestion, LD ₅₀ rat, (mg/kg) :	n.av.
	Skin - contact, LD ₅₀ rat, (mg/kg) :	n.av.
	Irritation (to skin / eye) :	Irritating to eyes.
	Sensitisation :	No.
11.1.2	Subacute / Chronic Toxicity :	
	Carcinogenicity :	n.av.
	Mutagenicity :	n.av.
	Teratogenicity :	n.av.
	Narcotic Effects :	Inhalation of solvent-vapours in high concentration causes narcotic effects.
11.2	Practical Experience	
11.2.1	Observations relevant for classification :	
	None.	
11.2.2	Further Observations :	
	None.	
11.3	General Remarks :	
	Classification of the preparation has been done by calculation in accordance with EEC directives.	



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12 Ecological Information

- 12.1 **Ecotoxic Effects, Aquatic Toxicity :**
n.av.
- 12.2 **Behaviour in Sewage Works :**
Mobility and Accumulation Potential : n.av.
- 12.3 **Elimination (Persistence and Degradability) :**
The product is biodegradable.
- 12.4 **Other Ecological Information**
 - 12.4.1 COD-Value, mg/g : n.av.
 - 12.4.2 BOD₅-Value, mg/g : n.av.
 - 12.4.3 AOX-Remarks : n.ap.
 - 12.4.4 Significant Components : Not relevant
 - 12.4.5 Other adverse effects : None.

13 Disposal Considerations (For national Regulations refer to item 15.)

- 13.1 **Residues**
 - 13.1.1 Recommendation : D10/ R 1 Waste - Code - No. : 07 06 04
In addition comply with the regional authorities.
 - 13.1.2 Safe Handling: See item 7 and 15.
- 13.2 **Contaminated Packaging**
 - 13.2.1 Recommendation : Wash with suitable cleaner. Otherwise as described under Residues.
 - 13.2.2 Safe Handling : As described under Residues.

14 Transport Information

- 14.1 **Transportation by Road or Railway according to ADR and RID**
Remarks :
 Class : 3 Classification Code : F1 Packing Group : II
 Hazard-No. : 33 UN-No. : 1219
 - 14.1.1 **Instruction Concerning Shipper's Declaration and Packaging :**

Volume or Mass	Name and Description	Risklabel	Packing - Code or instruction
max 3 l inner and 12 l per box	UN 1219 Isopropanol-solution	3	--/4G
	UN 1219 Isopropanol-solution	3	3H/Y
- 14.2 **Classification for Transportation by Inland-Navigation according to ADNO**
Remarks : Classification has not been done.
 Class : Division : Category :
 - 14.2.1 **Description of Goods :**
 - 14.2.2 **Remarks :**
- 14.3 **Classification for Transportation by Vessels according to IMDG**
Remarks :
 Class : 3 UN-No. : 1219 Packing Group : II
 - 14.3.1 **EmS-No. :** F-E, S-D
 - 14.3.2 **Marine Pollutant :** No.
 - 14.3.3 **Instruction for Declaration and Labelling :**
 (Packing sizes with possible exemptions not considered)
Proper Shipping Name : Isopropanol- solution
Risk Label : Flammable Liquid
 - 14.3.4 **Remarks :** None.



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14.4 Classification for Transportation by Aeroplane according to IATA-DGR/CAO-TI
Remarks :
 Class : 3 UN-No. : 1219 Packing Group : II

14.4.1 Instruction for Declaration and Labelling :
 (Packing sizes with possible exemptions not considered)
Proper Shipping Name : Isopropanol-Solution
Risk Label : Flammable Liquid
 Packing Instructions, Passenger : 305 Cargo : 307

14.4.2 Remarks : None.

15 Regulatory Information

15.1 Classification according to EEC-Regulations :
 Classification required by EEC : Yes. Applicable Exemptions : No.
 Hazard Identification : Irritant & Highly flammable Hazard Symbol(s) :
 Component(s) : Contains: Isopropanol
R-Phrases :
 R 11: Highly flammable.  
 R 36: Irritating to eyes.
 R 67: Vapours may cause drowsiness and dizziness.

S-Phrases :
 S 7: Keep container tightly closed.
 S 16: Keep away from sources of ignition - No smoking.
 S 24 / 25: Avoid contact with skin and eyes.
 S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Additional Markings :
 Attach tactile warning of danger.

15.1.1 The above mentioned labelling is valid for distribution to industrial user.
 Labelling (formats, exemptions, additional markings) has to be done according to respective regulations.

15.2 National Regulations
 VOC-Content: n.av.

16 Other Information

Text of R phrases mentioned in Section 2
 R 10: Flammable.
 R 11: Highly flammable.
 R 20: Harmful by inhalation.
 R 36/37: Irritating to eyes and respiratory system.
 R 36: Irritating to eyes.
 R 67: Vapours may cause drowsiness and dizziness.

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 This Material Safety Data Sheet relates to 2001/58/EEC and TRGS 220.
 The statements in this Material Safety Data Sheet were made to the best of our knowledge and are as accurate as possible.
 They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must
 neither be altered nor transferred to other products.
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 Receipt of Data : 25.10.2004, nan078