

Product name: EM-Tec C33 fast drying conductive carbon paint
Document Nr.: SDS0015001133-01

Date: May 24th 2016
Version: 2.0

Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

EM-Tec C33 fast drying conductive carbon paint

1.2 Relevant identified uses of the substance or mixture and uses advised against

Against electrostatic charge and making grounding paths for SEM samples

1.3. Details of the supplier of the Safety Data Sheet

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

112 (NLD) or your national emergency telephone number for chemical spills, leaks, fires, exposures or accidents

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Physical:	Flammable liquid, category 2 Highly flammable liquid and vapour
Health:	Eye irritation, category 2 Causes serious eye irritation Specific target organ toxicity – single exposure, category 3 May cause drowsiness or dizziness
Environment:	Not classified
Other hazards:	None



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Classification according to Regulation EC Nr. 1272/2008

F: HIGHLY FLAMMABLE

Xi: IRRITANT

Health:	R36: Irritating to eyes R67: Vapours may cause drowsiness and dizziness
Physical	R11: Highly flammable
Environment:	Not classified
Other hazards:	Not classified

2.2 Labelling elements

Labelling accordance to Regulation EC Nr. 1272/2008

Hazard pictogramm(s):



Signal word:	Danger
Hazard statement(s):	H225: Highly flammable liquid and vapour H319: Causes serious eye irritation H336: May cause drowsiness or dizziness
Precautionary statement(s):	P102: Keep out of reach of children P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P233: Keep container tightly closed P261: Avoid breathing dust/fumes/gas/mist/vapours/spray P280: Wear protective gloves/protective clothing/eye protection/face protection P337/313: If eye irritation persists; get medical advice/attention P370/378: In case of fire: Use foam or dry agent for extinction P501-2: Dispose of contents/container to an authorised waste collection point
Supplemental hazard info:	None

2.3 Other hazards

None



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Section 3: Composition / information on components

3.1. Substances

Not applicable

3.2 Mixtures

1. CAS Nr 2. EC Nr 3. Index Nr 4. REACH No	% (weight)	Name	Classification according to directive 67/548/EEC [DSD]	Classification according to regulation Nr 1272/2008 [CLP]
67-63-0 200-661-7 603-117-00-0 not available	60-70	Isopropanol, Isopropyl alcohol	R11R38R48/20R63 R65R67	Flam.Liq. 2, Eye Irrit.2, STOT SE 3, H225, H319, H336(3)
7782-42-5 231-955-3 not available 01-2119486977-12-xxxx	5-15	graphite	R48/20	STOT-RE category 2; H373

(* Explanation notes: see section 16)

Section 4: First aid measures

4.1. Description of first aid measures

- Contact with eyes:** Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
- Contact with skin:** Wash with water and soap.
Seek medical attention if irritation persists.
- Inhalation:** Fresh air, keep warm and at rest.
Seek medical attention if ill effects occur
- Ingestion:** If swallowed, do not induce vomiting
Seek immediate medical advice

4.2. Important symptoms and effects, either immediate or delayed

- Inhalation:** Excessive inhalation of solvent vapours may give rise to nausea, headaches and dizziness
- Ingestion:** May cause respiratory and digestive tract irritation
Symptoms: sore throat, abdominal pain, nausea, vomiting



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Skin contact: Mildly irritating to skin
Symptoms: redness and pain
Eye contact: Irritating to eyes
Symptoms: redness and pain, impaired vision

4.3. Indication of any immediate medical attention and special treatment

General advise: If you feel unwell, seek medical advice; show product label if possible
If symptoms persist, always call a doctor

Section 5: Firefighting Measures

5.1. Extinguishing media

Foam, carbon dioxide or dry agent

5.2 Special hazards arising from the substance or mixture

May form explosive vapour/air mixtures
Forms hazardous decomposition products
CO, CO₂

5.3 Advice to firefighters

Keep container(s) exposed to fire cool by spraying with water
In case of fire; do not breathe fumes

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Shut off all ignition sources
Ensure adequate ventilation
Wear suitable protective clothing including eye/face protection

6.2 Environmental precautions

Do not allow to enter public sewers and waterways



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6.3 Methods and material for containment and clean up

Absorb spillage in suitable inert material
Clean up spills immediately
Avoid breathing vapours
Control personal contact with the substance, by using protective equipment
Collect spillage, absorbed spillage and wipes in a sealable, solvent resistant container
Wash spill area with soap and water to remove last traces of residue

6.4 Reference to other sections

For further information see section 8

Section 7: Handling and storage

7.1. Precautions for safe handling

Keep away from sources of ignition
Take precautions against static discharges
Equipment should be grounded
Use explosion proof electrical/ventilating/lighting/...../equipment
Only use non-sparking tools
Do not breathe aerosols or vapours
Ensure adequate ventilation
Avoid contact with skin and eyes
Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection/face protection
Have eyewash bottles available

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly close, in a cool, well ventilated place
Keep out of reach of children

7.3 Specific end uses(s)

Against electro-static charge
Making grounding paths
Attaching SEM specimens



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Section 8: Exposure control and personal protection

8.1. Control parameters

Exposure limits

Occupational exposure limits (OEL)

Ingredient	Material Name	Source	TWA	STEL	Peak	Notes
Isopropanol	Isopropyl alcohol	UK	999mg/m ³	1250mg/m ³	Not available	Skin
Graphite	Graphite	EU	238mg/m ³	475mg/m ³	Not available	Not available

8.2 Exposure controls

- Control procedures:** Ensure adequate ventilation
Keep away from heat sources and ignition sources
Take precautions against static discharges
- Personal protection:** Take precautions to avoid contact with eyes and skin when handling the products
Ensure adequate ventilation
- Inhalation:** In case of insufficient ventilation, wear suitable respiratory equipment:
Air purifying respirator with organic gas/vapour cartridge (type A)
- Hands and skin:** Wear suitable gloves against chemicals; recommended gloves:
Nitrile
- Eyes:** Wear safety goggles or full face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Appearance/physical state:** Liquid
- Colour:** Black
- Odour:** Solvent
- pH** not applicable
- Boiling point/range:** 82°C
- Flash point:** 11°C (closed cup)
- Evaporation rate:** Not available
- Explosion limits: upper limit:** 12%
- lower limit:** 2%
- Vapour pressure:** 4 kPa @ 20°C
- Relative density:** 0.84 g/cm³ @ 20°C
- Solubility in water:** not soluble in water
- Auto-ignition:** >400°C
- Viscosity:** Not available



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9.2 Other information

VOC: 617.4 g/l

Section 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known if used for its intended purposes

10.2 Chemical stability

Stable

10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purposes

10.4 Conditions to avoid

Avoid overheating

10.5 Incompatible materials

Strong oxidising agent

10.6 Hazardous decomposition products

CO, CO₂

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure:

- Inhalation:** Inhalation of solvent vapours may give rise to nausea, headaches and dizziness
Skin contact: Prolonged skin contact will result in defatting of the skin, leading to irritation and in some cases to dermatitis
Eye contact: Irritation to eyes



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Toxicological data:

Ingredient	Toxicity	Irritation
Isopropanol, Isopropyl alcohol	Dermal (rabbit) LD50: >5000mg/l	Eye (rabbit): no data
	Inhalation (rat) LC50: 20mg/l	Eye (rabbit): no data
	Oral (rat) LD50: >5000 mg/kg	Skin (rabbit): no data
Graphite, natural	Inhalation (rat) LC50: >2mg/l 4h	Eye (rabbit): non-irritating
	Oral (rat) LD50: >2000 mg/kg	Skin (rabbit): non-irritating
EM-Tec C33 conductive carbon paint	Not available	Not available

Section 12: Ecological information

12.1. Toxicity

Not classified

Ecotoxicological data:

Hazardous ingredient	CAS-nr	Method	
Propan-2-ol; isopropyl alcohol, isopropanol	67-63-0	IC50 algae	>1000 mg/l
		LC50 fish	>1000 mg/l
		EC50 daphnia	>1000 mg/l

12.2 Persistence and degradability

No experimental data available

12.3 Bioaccumulative potential

No experimental data available

12.4 Mobility in soil

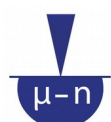
Insoluble in water

12.5 Results of PBT and vPvB assessment

No information available

12.6 Hazardous decomposition products

No experimental data available



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Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way. Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

14.1. UN number

UN-number: 1263

14.2 UN proper shipping name

Proper shipping name: PAINT

14.3 Transport hazard class(es)

Class: 3
ADR/RID-Classification code: F1

14.4 Packing group

Packing: II

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: No
IMDG-Marine pollutant: No
IATA/ICAO-Environmentally hazardous: No

14.6 Special precautions for user

ADR/RID-Tunnel code: (D/E)
IMDG-Ems: F-E, S-D
IATA/ICAO-PAX: 353
IATA/ICAO-CAO: 364



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14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

Section 15: Regulatory information

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

UN-number: 1263

15.2 Chemical safety assessment

No information available

Section 16: Other information

RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

Abbreviations:

Asp. Tox	Aspiration hazard
Carc.	Carcinogenicity
Exp.	Exposure
Flam.	Flammable
GHS	Global Harmonised System of Classification of Labelling Chemicals
Irrit.	Irritant
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
N/A	Not applicable
N/E	Not estimated
PBT	Persistent Bioaccumulative and Toxic
WEL	Workplace Exposure Limit
Repr.	Reproductive toxicant
RoHS	Restriction of Hazardous Substance
SEM	Scanning Electron Microscope
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity



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TCLo	Lowest published toxic concentration
vPvB	very Persistent and very Bioaccumulative
WEEE	Waste Electrical and Electronic Equipment

DSD / DPD label elements



Full Text Risk and Hazard codes

H225 – Highly flammable liquid and vapour.
H319 – Causes serious eye irritation.
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness

R11 – Highly flammable.
R36 – Irritating to eyes.
R66 – Repeated exposure may cause skin dryness and cracking.
R67 – Vapours may cause drowsiness and dizziness

Safety advice:

S01 – Keep locked up.
S02 – Keep out of reach of children.
S09 – Keep container in a well ventilated place.
S13 – Keep away from food, drink and animal feeding stuff.
S16 – Keep away from sources of ignition. No smoking.
S20 – When using, do not eat or drink.
S23 – Do not breath gas/fumes/vapour/spray.
S26 – In case of contact with eyes, rinse with plenty of water and seek medical help.
S281 – After contact with skin, wash immediately with detergent and plenty of waterways.
S29 – Do not empty in drains.
S33 – Take precautionary measures against static discharges.
S35 – This materials and its container must be disposed of in a safe way.
S36 – Wear suitable protective clothing.
S37 – Wear suitable gloves.
S38 – In case of insufficient ventilation, wear suitable respiratory equipment.
S39 - Wear eye / face protection.
S40 – In case of insufficient ventilation, wear suitable respiratory equipment.
S41 – In case of fire and/or explosion; DO NOT breathe fumes.
S43 – In case of fire use....
S45 – In case of accident or if you feel unwell, immediately contact Doctor or Poisons information center (show label if possible).
S46 – If swallowed, seek immediate medical advice and show label if possible.
S52 – Not recommended for interior use on large surfaces.



Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

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- S53 – Avoid exposure – obtain special instructions before use.
- S56 – Dispose of this materials and its container at hazardous or special waste collection point.
- S57 – Use appropriate container to avoid environment contamination.
- S61 – Avoid release to the environment
- S63 – In case of accident by inhalation; remove casualty to fresh air and keep at rest
- S64 – If swallowed, rinse mouth with water (only if person is conscious)

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.



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