

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

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

1.1. Product Identifier

EM-Tec C33 fast drying conductive carbon paint.
The substance is not subject to registration according to REACH

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

Rave Scientific
100 Franklin Square Dr.
Suite 101
Somerset, NJ 08873
Telephone: 1-732-898-3828
Email: info@ravescientific.com
Web: www.ravescientific.com

1.4 Emergency telephone number

911 (USA) 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 according to regulation EC Nr. 1272/2008 (CLP)

Physical:	Flammable liquid, category 2, H225
Health:	Serious eye damage, category 2, H319 Specific target organ toxicity – single exposure, category 3, H336 (narcotic effects, drowsiness)
Environment:	Not classified
Other hazards:	Not classified

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2.2 Labelling elements

Labelling accordance to Regulation EC Nr. 1272/2008

Hazard pictogram(s):

GHS02, GHS07



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
P241: Use explosion-proof (electrical/ventilating/lighting) equipment
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing
P337/313: If eye irritation persists; get medical advice/attention
P370/378: In case of fire: Use foam or dry agent for extinction
P405: Store locked up
P501-2: Dispose of contents/container to an authorised waste collection point

Supplemental hazard info:

None

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, the substance is not a PBT or a vPvB

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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 regulation Nr 1272/2008 [CLP]
67-63-0 200-661-7 603-117-00-0 not available	60-70	Isopropanol, Isopropyl alcohol	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	STOT-RE category 2; H373

(* Explanation notes: see section 16)

Section 4: First aid measures

4.1. Description of first aid measures

- General information:** The usual precautions for handling chemical substances should be observed. If symptoms should occur, seek medical advice.
Immediately remove any clothing soiled by the product
- 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

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4.2. Important symptoms and effects, either immediate or delayed

No further relevant information available

4.3. Indication of any immediate medical attention and special treatment

No further relevant information available

Section 5: Firefighting Measures

5.1. Extinguishing media

Foam, carbon dioxide or dry agent
Unsuitable extinguishing agents: Water with full yet.

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

- See Section 7 for information on safe handling
- See section 8 for information on personal protection equipment
- See section 13 for disposal information

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)

No further relevant information available

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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	EU	200ppm	400ppm	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

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Auto-ignition: >400°C
Viscosity: Not available

9.2 Other information

VOC: 617.4 g/l (Isopropanol)

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

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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: Causes serious eye irritation
CMR effects: Carcinogenicity classification criteria not met based on available data
 Germ cell mutagenicity classification criteria not met based on available data
 Reproductive toxicity classification criteria not met based on available data
STOT-single exposure: may cause drowsiness or dizziness
STOT- repeated exposure: classification criteria not met based on available data
Aspiration hazard: classification criteria not met based on available data

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

Symptoms related to physical, chemical and toxicological characteristics

- If swallowed:** vomiting, nausea, gastrointestinal complaints
If in eyes: causes serious eye irritation
If inhaled: fatigue, dizziness, narcosis
If on skin: repeated exposure may cause skin dryness or cracking

11.2. Endocrine disrupting properties

Not listed

11.3. Toxicity

There is no additional information

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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

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.

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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

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**

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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 Bio-accumulative 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
TCLo	Lowest published toxic concentration
vPvB	very Persistent and very Bio-accumulative
WEEE	Waste Electrical and Electronic Equipment

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DSD / DPD label elements**Relevant phrases**

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

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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