


SAFETY DATA SHEET	
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Complying with 1907/2006/EEC Regulation of 18 December 2006 ("REACH Regulation") and REGULATION (EC) No 1272/2008 (CLP)

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name: Sicrys™ IC25EG-1

Trade name: Sicrys™ IC25EG-1

Product type: Copper ink

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

Ink

1.3 Details of the supplier of the safety data sheet

P.V. Nano Cell Ltd.

P.O.Box 236, Migdal Ha'Emek, Israel 23100

Phone: +972-4-6546881

Fax: +972-4-6546880

E-mail address of person responsible for this SDS:

1.4 Emergency telephone number

Emergency telephone number (with hours of operation):

National Information & Response Center: in Israel *6911 or 08-9253321

Outside Israel: +972 8 925 3321

infocenter@sviva.gov.il

Section 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation EC No 1272/2008

Product name	EU/EC Classification
Sicrys™ IC25EG-1	Short-term (acute) aquatic hazard (Cat.1), H400 Long-term (chronic) aquatic hazard (Cat.1), H410 Acute Tox, Oral (Category 4), H302 Specific target organ toxicity – repeated exposure, Oral (Category 2), Kidney, H373


2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard symbol(s):



Warning

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Hazard Statement(s):

H410: Very toxic to aquatic life with long lasting effects.

H302: Harmful if swallowed

H373: May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statement(s):

P273: Avoid release to the environment

P391: Collect spillage.

P51: Dispose of contents / container to an approved waste disposal plant.

P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Rinse mouth.

2.3 Other hazard

None

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

Product/ Ingredient name	Identifiers	%	EU/EC Classification
Copper	CAS number: 7440-50-8 EC number: 231-159-6	20-30	Aquatic Acute 1, Aquatic Chronic 1, H400, H410 M-Factor – Aquatic Acute: 10 M-Factor – Aquatic Chronic: 100
Ethylene Glycol	CAS number: 107-21-1 EC number: 203-473-3	65-75	Acute Tox. 4, STOT RE 2; H302, H373

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in section 8. See section 16 for the full text of the R-phrases declared above.

Section 4. FIRST AID MEASURES

4.1 Description of first aid measures


Eyes contact: In case of contact with eyes, rinse immediately with water. Get medical attention if irritation occurs.

Skin contact: Avoid prolonged or repeated contact with skin. After handling, always wash hands thoroughly with water. Get medical attention if irritation develops.

Inhalation: Remove from site of exposure to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. Get medical attention.

Ingestion: If large quantities of this material are swallowed, call a physician immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give a glassful of water by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

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Harmful if swallowed. Causes eye irritation. May cause irritation to skin and respiratory system. May be harmful if inhaled and if absorbed through skin.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote, medical staff contacts Poisons Information Center. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Use an extinguishing agent suitable for surrounding fire.

Not suitable: N/A

5.2 Special hazards arising from the substance or mixture

Hazardous thermal decomposition products: Copper oxides, irritating and toxic fumes.

5.3 Advice for firefighters

Special protective equipment for fire fighters: Fire fighters should wear full protective clothing and self-contained breathing apparatus in positive pressure mode.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ventilate area of spill. Avoid breathing fumes.

6.2 Environmental precautions

Do not let this chemical enter the environment. Keep away from drains, surface and ground water.

6.3 Methods and materials for containment and cleaning up

Absorb the chemical onto sand, vermiculite, or any other non-combustible absorbent, and collect into containers for later disposal.

Large spill: As for small spill

Personal Protection in Case of Large Spill: Safety glasses. Full suit. Suitable respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.

6.4 Reference to other sections


See Section 1 for emergency contact information.

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling: Do not breathe vapors. Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Wash thoroughly after handling. Keep away from heat and sources of ignition.

Hygiene Measures: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also section 8 for additional information measures.

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7.2 Conditions for safe storage, including any incompatibilities

Storage: Store and use away from heat, sparks, open flame or any other ignition source. Keep containers tightly closed, in a dry, cool and well ventilated place. Do not store together with strong oxidizing agents, strong acids, strong bases, aldehydes, aluminum, acid chlorides and halogens. Protect from electrostatic discharges.
Ethylene glycol is hygroscopic.

7.3 Specific end use(s): N/A

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

Ingredient name	Occupational exposure limits
Ethylene Glycol	Soil: 1.53 mg/kg Marine water: 1 mg/L Fresh water: 10 mg/L Marine sediment: 3.7 mg/kg Fresh water sediment: 37 mg/kg Sewage treatment plant: 199.5 mg/L

8.2 Exposure controls

Engineering Measures

Use process enclosures, local exhaust ventilation, or others engineering controls to keep airborne levels below recommend exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Person Protective measures

Respiratory protection: Suitable respirator. Be sure to use an approved/certified or equivalent.

Wear appropriate respirator when ventilation is inadequate.

Eye/face protection: Wear protective safety glasses, goggles.

Skin protection: Wear appropriate long-sleeved clothing to minimize skin contact.

Hand protection: Wear protective disposable gloves to prevent skin exposure.

Environmental exposure controls: Not available

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: Dark red (Burgundy) liquid

Odour: N/A

Odour threshold: N/A

pH: N/A

Melting point/Freezing point: N/A

Initial boiling point/boiling range: 196-198°C (Ethylene Glycol)


Flash point: 111°C, closed cup (Ethylene Glycol)

Evaporation rate: N/A

Flammability: N/A

Upper/lower flammability or explosive limits: N/A

Vapor pressure: N/A

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Vapor density: N/A
Relative Density: ~1.5 g/cc
Solubility(ies): N/A
Partition coefficient Octanol/Water: N/A
Auto-ignition temperature: N/A
Decomposition temperature: N/A
Viscosity: 20-45 cP at 25°C
Explosive properties: N/A
Oxidizing properties: N/A

9.2 Other information: N/A

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients

10.2 Chemical stability

The product is stable under normal handling and storage conditions described in Section 7.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Heat, sparks, open flame.

10.5 Incompatible materials

Strong oxidizing agents, strong acids, strong bases, aldehydes, aluminum, acid chlorides and halogens.

10.6 Hazardous Decomposition products:

Not available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Test	Species	Dose
Ethylene Glycol	LC50, Inhalation	Rat	>2.5 mg/L (6h ECHA)
	LD50, Dermal	Mouse	>3.5 mg/kg (ECHA)

Irritation: Causes eye irritation. May cause irritation to skin and respiratory system.


Corrosivity: N/A

Sensitization: N/A

Repeated dose toxicity: N/A

Carcinogenicity: N/A

Mutagenicity: N/A

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Toxicity for reproduction: N/A

Other effects:

Harmful if swallowed. May be harmful if inhaled and if absorbed through skin.

Ethylene glycol: When ingested early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage. Exposure to and/or consumption of alcohol may increase toxic effects.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

N/A

12.2 Persistence and Degradability

N/A

12.3 Bioaccumulative potential

N/A

12.4 Mobility in soil

Soil/water partition coefficient (Koc): N/A

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects:

Product/ingredient name	Test	Species	Dose
Copper	LC50	Oncorhynchus mykiss (Rainbow trout)	0.15 mg/L (96 h)
	EC50	Daphnia magna (Water flea)	0.04-0.05 mg/L (48 h)

Section 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product


Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Packing

Empty containers should be taken for local recycling, recovery or waste disposal.

Section 14: TRANSPORT INFORMATION

14.1 Un number:

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ADR/RID: - 3082

IMDG: - 3082

IATA: - 3082

14.2 Proper shipping name:

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Copper nanopowder)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Copper nanopowder)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID (Copper nanopowder)

14.3 Transport hazard class(es)

ADR/RID: - 9

IMDG: - 9

IATA: - 9

14.4 Packing group

ADR/RID: - III

IMDG: - III

IATA: - III

14.5 Environmental hazard

ADR/RID: - yes

IMDG: - yes

IATA: - yes

14.6 Special precautions for user

Not available

Further information

Packages small than or equal to 5 kg / L, not dangerous goods of Class 9

14.7 Transport to bulk according to Annex II of MARPOL 79/78 and the IBC Code

Not available

Section 15: REGULATORY INFORMATION

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

EU Directives 67/548/EEC and 1999/45/EC (including amendments)

EU Regulation(EC) No.1272/2008 (REACH)

15.2 Chemical safety assessment

N/A

Section 16: OTHER INFORMATION

Training advice: Before using/handling the product one must read carefully present MSDS.

Recommended restriction: N/A

Key Legend Information:

ACGIH- American Conference of Governmental Industrial Hygienists

OSHA- Occupational Safety and Health Administration

NTP- National Toxicology program


IARC- International Agency for Research on Cancer

ND- Not Determined

N/A- Not available

R-phrases- Risk phrases

S-phrases- Safety phrases

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Version no. 4

To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.