


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™ I54DMG4-050

Trade Name: Sicrys™ I54DMG4-050

Product type: Silver 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 Directive 67/548/EEC (DSD) or 1999/45/EC

Product name	EU Classification
Sicrys™ I54DMG4-050	T; R60 N; R51/53 R33, Xn; R63, Repr.Cat.3

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2.2 Label elements

Labelling in accordance with 1999/45 (DPD)

Hazard symbol(s):



Signal word: Danger

Risk phrase(s):

Xn: Harmful

R33: Danger of cumulative effects.

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R60: May impair fertility.

R63: Possible risk of harm to the unborn child.

Repr.Cat.3 Toxic to Reproduction Category 3

Hazard statement(s):

H361d: Suspected of damaging the unborn child

Safety phrase(s):

S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

S53: Avoid exposure - obtain special instructions before use.

S61: Avoid release to the environment. Refer to special instructions/safety data sheet.

P281: Use personal protective equipment as required

2.3 Other hazard

None


Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation:

Product/ Ingredient name	Identifiers	%	EU Classification
Lead oxide	CAS number: 1317-36-8 EC number: 215-267-0	<3.5	T; R60 Xn; R20/22, R62 N ; R50/53 R33
Boron oxide	CAS number: 1303-86-2 EC number: 215-125-8	<0.2	T; R60, R61
Silver	CAS number: 7440-22-4 EC number: 231-131-3	45-55	-
Diethylene glycol monomethyl ether (DGME)	CAS number: 111-77-3 EC number: 203-906-6	35-50	Xn; R63; Repr.Cat.3

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.

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Section 4. FIRST AID MEASURES

4.1 Description of first aid measures

- Eyes contact:** In case of contact with eyes, rinse immediately with water for at least 15 minutes. 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 anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

N/A

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: Irritating and toxic fumes, carbon oxides.

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

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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. Do not permit eating/drinking/smoking near the material. 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.

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.

Use original container.

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
Silver	ACGIH-TLV 0.1 mg/m ³ (TWA), (dust, fume)
Lead oxide	ACGIH-TLV 0.05 mg(Pb)/m ³ (TWA) NIOSH-REL <0.1 mg(Pb)/m ³ (TWA)
Boron oxide	OSHA-PEL 15 mg/m ³ (TWA), total dust NIOSH-REL 10 mg/m ³ (TWA)

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.

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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: Opaque greenish/grey liquid

Odour: Ether-like odor

Odour threshold: N/A

pH: N/A

Melting point/Freezing point: -70°C (Solvent)

Initial boiling point/boiling range: ~194°C (Solvent)

Flash point: 87°C - closed cup (Solvent)

Evaporation rate: N/A

Flammability: N/A

Upper/lower flammability or explosive limits: LEL: 1.38% (V) (Solvent), UEL: 22.7% (V) (Solvent)

Vapor pressure: 0.3 hPa @20°C (Solvent)

Vapor density (Air=1): 4.15 (Solvent)

Relative Density: N/A

Solubility(ies): N/A

Partition coefficient Octanol/Water: N/A

Auto-ignition temperature: N/A

Decomposition temperature: N/A

Viscosity: N/A

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, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, strong acids and strong bases.

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10.6 Hazardous Decomposition products:

Not available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Product/ingredient name	Test/Type	Species	Dose
Boron oxide	LD50, Oral	Rat	3150 mg/kg
	LD50, Oral	Mouse	3163 mg/kg
Silver	Oral	Mouse	100 mg/kg
Diethylene glycol monomethyl ether (DGME)	LD50, Oral	Rat	>7.000 mg/kg

Irritation: N/A

Corrosivity: N/A

Sensitization: N/A

Repeated dose toxicity: N/A

Carcinogenicity:

Lead oxide

NTP1: Reasonably anticipated to be a human carcinogen.

ACGIH-A3: Confirmed animal carcinogen.

Boron oxide

ACGIH-A4: Not classifiable as human carcinogen.

Mutagenicity: N/A

Toxicity for reproduction: May impair fertility. Possible risk of congenial malformation in the fetus. Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Other effects: Danger of cumulative effects.


Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

12.2 Persistence and Degradability

N/A

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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: N/A

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:

ADR/RID: -

IMDG: -

IATA: -

14.2 Proper shipping name:

ADR/RID: Not regulated

IMDG: Not regulated

IATA: Not regulated

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packing group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazard

ADR/RID: -

IMDG: -

IATA: -


14.6 Special precautions for user

Not available

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

Not available

Section 15: REGULATORY INFORMATION

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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.1907/2006 (REACH)

15.2 Chemical safety assessment

N/A

Section 16: OTHER INFORMATION

Full text of R-phrases referred to in section 3:

Repr. Reproductive toxicity

R60: May impair fertility.

R61: May cause harm to the unborn child.

R62: Possible risk of impaired fertility.

R63: Possible risk of harm to the unborn child.

Xn: Harmful

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R20/22: Harmful by inhalation and if swallowed.

R33: Danger of cumulative effects.

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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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.