MATERIAL SAFETY DATA SHEET

Antimony nanoparticles solution
According to EC Nº 453/2010
Edition date 30/07/2020
Version 4.0

Section 1.- Identification of the substance/mixture and of the company

- **Identification of the product:** Antimony nanoparticles solution
- **Chemical family:** Antimony and acetone
- **Product name:** DRP-SBNP-PUR
- **Use of the substance/preparation:** Research use only
- **Manufacturer/supplier identification:** Metrohm DropSens, S.L. Vivero de Ciencias de la Salud, Calle Colegio Santo Domingo de Guzmán, s/n, 33010 Oviedo, Asturias, Spain
  Tel.- +34 985 27 76 85
  E-mail: info.dropsens@metrohm.com
  Internet Web Site: www.metrohm-dropsens.com
- **Emergency phone:** Metrohm DropSens, S.L. +34 985 27 76 85

Section 2.- Hazards identification

Caution! To the best of our knowledge the chemical, physical and toxicological properties of this material has not been thoroughly investigated. The present substance has been classified according to hazards identification of its components.

Classification of the mixture:
According to Regulation CLP (EC) No1272/2008
- Flammable liquid (Category 2)
- Eye irritation (Category 2)
- Specific target organ toxicity - single exposure (Category 3), central nervous system
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category 3) H412
- Acute toxicity, Oral (Category 3), H301
- Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Label elements:

Hazard statements
- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.
- H336 - May cause drowsiness or dizziness.
- H410 – Veri toxic to aquatic life with long lasting effects
- EUH066 - Repeated exposure may cause skin dryness or cracking.
- H301 – Toxic if swallowed.
- H335 – May cause respiratory irritation.

Declaraciones de prudencia:
- P210 - Keep away from heat, hot surfaces, sparks, open flame and any other source of ignition. No smoking.
- P273 - Avoid release to the environment.
- P305 + P351 + P338 - In case of contact with eyes: rinse thoroughly with water for several minutes. Remove contact lenses, if present and easy to do. Keep washing.

- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 - Wash skin thoroughly after handling.
- P301 + P310 + P330 - IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
- P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- P501 - Dispose of contents/ container to an approved waste disposal plant.

Caution: substance not yet tested completely

Section 3.- Composition/Information on ingredients

– **Antimony nanoparticles**	**Synonyms**: Sb **CAS**: 7440-36-0 **Concentration**: 1 mg/mL **Molecular weight:** 121.75 g/mol
– **Acetone**	**Synonyms**: C_3H_6O **CAS**: 67-64-1 **Molecular weight**: 58.08 g/mol

Section 4.- First aid measures

- **General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- **After skin contact:** Wash skin with soap and copious amounts of water.
- **After ingestion**: Make victim drink plenty of water. Never give anything by mouth to an unconscious person, rinse mouth with water.
- **After eye contact:** Rinse out with plenty of water with the eyelid held wide open for at least 15 minutes.
- **After inhalation:** Move the person into fresh air. If it is necessary, give artificial respiration with oxygen.

Section 5.- Fire-fighting measures

- **Suitable extinguishing media:** Dry power or dry sand.
- **Special hazards arising from the substance**: In case of combustion, bismuth oxides can be produced.
- **Special protective equipment for firefighting:** Wear self-contained breathing apparatus for firefighting if necessary.
- **Further information:** Flammable liquid. Check for at least 48 hours until the material is clear. Cool the container with water spray. Prevent the water used from coming into contact with surface water, the sewage system or aquifers.

Section 6.- Accidental release measures

- **Person-related precautionary measures:** Use personal protective equipment. Avoid breathing vapours. Ensure adequate ventilation. Wear safety gloves, clothing and glasses.
- **Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- **Methods and materials for containment and cleaning up:** Collect and perform the removal with an adsorbent material. Ventilate and clean the spill area with water. Keep in suitable, closed containers for disposal.

Section 7.- Handling and storage

- **Precautions for safe handling:** Avoid eye and skin contact. Avoid inhalation of vapour or mist.

- **Conditions for safe storage:** Store in a cool place. Keep the container tightly closed in a dry and well-ventilated place. The containers that are opened must be closed carefully and kept upright to avoid losses. Access to authorized personnel.

Section 8.- Exposure controls/personal protection

8.1. Control parameters:

Components with workplace control parameters

Derived No Effect Level (DNEL)			
Application area	**Exposure routes**	**Health effect**	**Value**
Workers	Skin contact	Long-term systemic effects	186 mg/kg BW/d
Consumers	Ingestion	Long-term systemic effects	62 mg/kg BW/d
Consumers	Skin contact	Long-term systemic effects	62 mg/kg BW/d
Workers	Inhalation	Acute systemic effects	2420 mg/m^3
Workers	Inhalation	Long-term systemic effects	1210 mg/m^3
Consumers	Inhalation	Long-term systemic effects	200 mg/ m^3

Predicted No Effect Concentration (PNEC)	
Compartment	**Value**
Soil	33.3 mg/kg
Marine water	1.06 mg/L
Fresh water	10.6 mg/L
Marine sediment	3.04 mg/kg
Fresh water sediment	30.4 mg/kg
Onsite sewage treatment plant	100 mg/L

8.2. Exposure controls:

General industrial higiene practice.

8.3. Personal protection:

Wear eye protection equipment tested and approved according to corresponding standards.
Handle with gloves. Gloves must be inspected before use. Avoid contact with the skin when removing gloves.
The gloves must comply with the specifications indicated in the applicable regulations.

Section 9.- Physical and chemical properties

- **General information:**
  - Form: liquid
  - Colour: black, metallic.
  - Odour: no data available
- **Important health, safety and environmental information:**
  - pH: No data available.
  - Boiling point: No data available.
  - Flash point: No data available.
  - Explosion limits: No data available.
  - Vapour pressure: No data available.
  - Density: No data available.
  - Solubility in other solvents: Very low solubility in polar solvents.

Section 10.- Stability and reactivity

- **Reactivity:** No data available
- **Chemical Stability:** No data available.
- **Possibility of hazardous reactions:** No data available.
- **Incompatible materials:** Acids, Bases, Oxidants, Halogens, Alkali metals, Acid chlorides, Acid anhydrides, Reducing agents, Acetone reacts violently with phosphorus oxychloride.
- **Conditions to avoid:** Calor, llamas y chispas.
- **Hazardous decomposition products:** Other decomposition products – no data available.
- **Further information:** Stable under recommended storage conditions.

Section 11.- Toxicological information

11.1 Information on toxicological effects
Acute oral toxicity: LD50 Oral Rat: 100 mg Sb /kg

- **Acute toxicity:** No data available.
- **Skin corrosion/irritation:** No data available.
- **Serious eye damage/eye irritation:** May cause moderate eye irritation.
- **Respiratory or skin sensitization:** No data available**.**
- **Germ cell mutagenicity:** No data available.
- **Carcinogenicity:** No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- **Specific target organ toxicity – single exposure:** No data available.
- **Specific targer organ toxicity – repeated exposure:** No data available.
- **Aspiration hazard:** No data available.
- **Potential health effects**
  - **Ingestion:** Toxic if swallowed.
  - **Serious eye damage/eye irritation:** Causes eye irritation.
  - **Inhalation:** Toxic if inhaled. May cause respiratory tract irritation.
  - **Skin corrosion/irritation:** Toxic if absorbed through skin. May cause skin irritation
- **Additional information:**
  RTECS: Not available

Section 12.- Ecological information:

Toxicity
Toxicity to fish: LC50 - Cyprinodon variegatus (sheepshead minnow) - 6,2 - 8,3 mg Sb/L - 96,0 h
Other adverse effects
Very toxic for aquatic organisms. Avoid release to the environment.

Section 13.- Disposal considerations

- **Product:** See all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose this material.
- **Contaminated packaging:** Dispose of as unused product.

Section 14.- Transport information
Not a hazardous material for transportation.

Section 15.- Regulatory information
This safety datasheet has been revised to comply with the requirements establish in (EC) 453/2010.

Section 16.- Other information

Date of creation: 16/05/2019
Author: Daniel Antuña
Revised by: David Hernandez Santos (Genral Manager, Metrohm DropSens, S.L.)

The contents and format of this MSDS are in accordance with EC 453/2010.

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