

## SAFETY DATA SHEET


**Product: MICRO-ÓLEO ANTICORROSIVO M1 (AEROSSOL)**

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1- IDENTIFICATION	
Product identifier:	MICRO-ÓLEO ANTICORROSIVO M1 (AEROSSOL)
Recommended use of the chemical and restrictions on use:	Lubricating, eliminating moisture, protect against corrosion, penetrate and clean.
Manufacturer's name:	Starrett Indústria e Comércio Ltda.
Address:	Avenida Leroy S. Starrett, 1880 – CEP 13306-900 – Pinheirinho – Itú – SP – Brazil
Telephone number:	0300 788-8800
Emergency telephone number:	(11) 2118-8080 (11) 2118-8083
Email:	falecom@starrett.com.br

2- HAZARDS IDENTIFICATION	
Classification of the chemical:	Aerosols – Category 2
Signal word:	WARNING
Hazard statement(s):	H223 Flammable aerosol. H229 Pressurized container: may burst if heated.
Symbol(s):	
Precautionary statement(s):	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211 Do not spray on an open flame or other ignition source. P251 Do not pierce or burn, even after use.

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	P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Classification system adopted:	Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.
Other hazards which do not result in classification:	Can cause harmful effects to the environment, with long lasting effects.

### 3- COMPOSITION/INFORMATION ON INGREDIENTS

MIXTURE			
Components contributing to the hazard (%m):	Component	Concentration (%)	CAS Number
		C13-14 isoparaffin	80.0

### 4- FIRST-AID MEASURES

#### Description of first aid measures

Inhalation:	The gas can cause dizziness or suffocation. Remove victim to fresh air and keep warm at rest in a position comfortable for breathing. Monitor respiratory function. If the victim breathing is difficult, give oxygen. If necessary give artificial respiration. Consult a doctor. Take this SDS.
Skin contact:	Take off all contaminated clothing. In case of contact of the product in pressurized form with the skin may occur injury or frostbite. Immediately wash exposed skin with sufficient water and soap. Clothing adhered to the skin should be thawed in warm water before being removed. Consult a doctor. Take this SDS.
Eye contact:	In case of contact of the product in pressurized form with the eyes may occur injury or frostbite. Immediately flush eyes with sufficient amount of water for, at least, 15 minutes, keeping eyelids open. Remove contact lenses, if present and easy to do. Consult a doctor. Take this SDS.
Ingestion:	Do not induce vomiting. If the same occurs spontaneously, lay the victim on side to prevent aspiration of residues. Never give anything by mouth



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	to an unconscious person. Rinse the victim's mouth with plenty of water. Call a POISON CENTER or doctor if you feel unwell. Take this SDS.
Most important symptoms and effects, acute and delayed:	Inhalation of gas may cause dizziness or suffocation. In case of contact of the product in pressurized form with the skin and eyes may occur injury or frostbite. May cause mild irritation of the respiratory tract, gastrointestinal system and nausea. If ingested or inhaled in large quantities can cause chemical pneumonitis, pulmonary edema and CNS depression. Repeated or prolonged contact may cause dermatitis and irritation of the conjunctiva.
Indication of any immediate medical attention and special treatment needed:	Avoid contact with the product to help the victim. Keep victim warm and quiet. Symptomatic treatment should comprise mainly supportive measures such as correction of electrolyte disturbances, metabolic and respiratory support. In case of contact with the product do not rub the affected site. Avoid gastric lavage, except in case of ingestion of large quantities. CNS depressant.

**5- FIRE-FIGHTING MEASURES**

Extinguishing media:	Suitable: Compatible with regular foam, mechanical foam, water mist, dry chemical, ABC chemical powder and carbon dioxide (CO <sub>2</sub> ). Unsuitable: Water directly on the burning liquid.
Specific hazards arising from the chemical product:	The product contains petroleum distillates fuels and mixture of highly flammable propellants. Dangerous when exposed to excessive heat or other sources of ignition such as sparks, open flames or flames of matches and cigarettes, welding operations, pilot lights and electric motors. Gases are heavier than air and tend to accumulate in low or confined areas, such as sewers, basements, etc. Can travel great distances causing retrogression of the flame or new fires both in open environments in as confined ones. Containers may explode if heated. The combustion of the containers may form toxic and irritant gases such as carbon monoxide and carbon dioxide.
Special equipment for the protection of firefighters:	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.



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**6- ACCIDENTAL RELEASE MEASURES**

Personal precautions:	Prevent sparks or flames. Do not smoke. Do not touch damaged containers or spilled material without the use of appropriate clothing. Avoid inhalation, contact with skin or eyes. Stay out of low areas, with the wind from behind.
Protective equipment:	Use protective equipment as described in section 8.
Emergency procedures:	It is recommended the installation of fire alarm system and leak detection in local storage and use of the product. Isolate the leakage from ignition sources. Evacuate the area within a radius of, at least, 100 meters. Keep unauthorized persons away from the area. Stop leak if it can be done without risk.
Methods and materials for containment and cleaning up:	Containment techniques may include bunding, covering of drains and capping procedures. <b>For the gas phase:</b> Stop the gas leak if you can do it without risk. Stay downwind. Do not pour water on spill or leak source. Do not dispose of used or damaged containers directly into the environment or into the sewer system. All equipment used in the product containment must be grounded. <b>For the liquid phase:</b> Use water mist or vapor suppressing foam to reduce the dispersion of the vapors. Use natural barriers or containment of spillage. Collect spilled product and place in appropriate containers. Adsorb the remaining product with dry sand, earth, vermiculite or other inert material. Place the adsorbed material in appropriate containers and remove them to a safe place. Use non-sparking tools to collect absorbed material. For disposal, proceed according to section 13 of this SDS.

**7- HANDLING AND STORAGE**

Precautions for safe handling:	Handle in a well ventilated area or with general system of ventilation/local exhaust. Avoid mists formation. Avoid exposure to the chemical. Avoid contact with incompatible materials. Use personal protective equipment as described in section 8.
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	<p>Keep away from heat, sparks, open flames and hot surfaces. – Do not smoke. Keep container tightly closed. Ground the container vessel and the receiver of the product during transfers. Only use anti-sparking tools. Avoid the accumulation of electrostatic charges. Use electrical equipment, ventilation and lighting explosion proof.</p> <p>Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.</p> <p>Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom.</p>
Conditions for safe storage, including any incompatibilities:	<p>Store in a well ventilated place away from sunlight. Keep container closed. Keep stored at room temperature not exceeding 35°C.</p> <p>Keep away from high temperatures, ignition sources and incompatible materials.</p> <p>Incompatible with oxidizing agents.</p> <p>Recommended material for packaging: Similar to the original packaging.</p> <p>Unsuitable material: It is not known unsuitable materials.</p>

**8- EXPOSURE CONTROLS AND PERSONAL PROTECTION****Control parameters:**

Occupational exposure limit:	Not established.
Biological limit:	Not established.
Appropriate engineering controls:	Promote direct mechanical ventilation and exhaust system to the outside environment. These measures help reduce exposure to product.

**Individual protection measures, such as personal protective equipment:**

Respiratory protection:	In case of large spills, where exposure is great, we recommend the use of semifacial respiratory or facial protection mask with filter against organic vapors.
Hand protection:	Nitrile safety gloves.

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Eye protection:	Safety goggles.
Skin and body protection:	Protective cream for the skin, protective clothing, apron and closed shoes. The material used should be waterproof.

#### 9- PHYSICAL AND CHEMICAL PROPERTIES

##### Information on basic physical and chemical properties

Appearance (physical state, color, etc.):	Amber liquid.
Odour:	Characteristic.
Odour threshold:	Not available.
pH:	Not available.
Melting point/freezing point:	Not available.
Initial boiling and boiling range:	173°C
Flash point:	72°C
Evaporation rate:	Not available.
Flammability (solid, gas):	Flammable.
Upper/ lower flammability or explosive limits:	Not available.
Vapour pressure:	Not available.
Vapour density:	Not available.
Relative density:	0.788 at 15.5°C
Solubility(ies):	Insoluble in water.
Partition coefficient: n-octanol/water	Information regarding to: - <u>C13-14 isoparaffin</u> : Log kow: 6.235 (estimated)



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Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.
Viscosity:	Not available.
Other information:	Not applicable.

**10- STABILITY AND REACTIVITY**

Reactivity:	It is not expected that the product shows reactivity potential.
Chemical stability:	Product is stable under normal conditions of temperature and pressure.
Possibility of hazardous reactions:	There are not known hazardous reactions with the product.
Conditions to avoid:	High temperatures, moisture, ignition sources and contact with incompatible materials.
Incompatible materials:	Oxidizing agents.
Hazardous decomposition products:	The burning may produce toxic and irritant gases, besides carbon monoxide and carbon dioxide.

**11- TOXICOLOGICAL INFORMATION**

Acute toxicity:	Product not classified as acute toxic by oral route. It is not expected that the product presents acute toxicity by dermal and inhalation route.  Information regarding to: - <u>C13-14 isoparaffin</u> : LD <sub>50</sub> (oral, rats): > 5000.0 mg/kg
Skin irritation/corrosion:	In case of contact of the product in pressurized form with the skin may occur injury or frostbite.
Eye damage/irritation:	In case of contact of the product in pressurized form with the eyes may occur injury or frostbite. Repeated or prolonged contact may cause irritation of the conjunctiva.

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Respiratory or skin sensitization:	Repeated or prolonged contact may cause dermatitis. It is not expected that the product causes respiratory sensitization.
Reproductive cell mutagenicity:	It is not expected that the product presents reproductive cell mutagenicity.
Carcinogenicity:	It is not expected that the product presents carcinogenicity.
Reproductive toxicity:	It is not expected that the product presents reproductive toxicity.
Specific target organ toxicity – single exposure:	May cause mild irritation of the respiratory tract, gastrointestinal system and nausea. If ingested or inhaled in large quantities can cause chemical pneumonitis, pulmonary edema and CNS depression.
Specific target organ toxicity – repeated exposure:	It is not expected that the product presents specific target organ toxicity by repeated exposure.
Aspiration hazard:	It is not expected that the product presents aspiration hazard.

#### 12- ECOLOGICAL INFORMATION

Ecotoxicity:	<p>Can cause harmful effects to aquatic life, with long lasting effects.</p> <p>Information regarding to:</p> <p>- <u>C13-14 isoparaffin</u>:</p> <p>LC<sub>50</sub> (<i>Oncorhynchus mykiss</i>, 96h): 2.4 mg/L</p> <p>EC<sub>50</sub> (<i>Daphnia magna</i>, 48h): 1.4 mg/L</p> <p>ECr<sub>50</sub> (<i>Pseudokirchneriella subcapitata</i>, 72h): 1.0 – 3.0 mg/L</p>
Persistence and degradability:	<p>The product does have persistence and it is considered readily biodegradable.</p> <p>Information regarding to:</p> <p>- <u>C13-14 isoparaffin</u>:</p> <p>Degradation rate: 58.6% in 28 days</p>
Bioaccumulative potential:	Presents high bioaccumulative potential in aquatic organisms.



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	<p>Information regarding to:</p> <ul style="list-style-type: none"> <li>- <u>C13-14 isoparaffin</u>:</li> </ul> <p>BCF: 207.7 (estimated) Log kow: 6.235 (estimated)</p>
Mobility in soil:	<p>It is expected very low mobility in soil.</p> <p>Information regarding to:</p> <ul style="list-style-type: none"> <li>- <u>C13-14 isoparaffin</u>:</li> </ul> <p>Koc: <math>1.967 \times 10^5</math> (estimated)</p>
Other adverse effects:	<p>There are not known adverse environmental effects of the product.</p>

#### 13- DISPOSAL CONSIDERATIONS

<p>Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:</p>	<p>Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Route the product for recycling as authorized by the competent environmental authority. Federal, state and municipal laws should be consulted. It is forbidden to discard it in the soil, surface water, groundwater, territorial sea and sewage systems. It also prohibited the removal of residual water or any other means of disposal causing atmospheric pollution.</p> <p>Keep the product remains in its original and properly closed. Disposal should be performed as established for the product.</p> <p>Container/packaging under pressure. Do not drill and burn, even after use. Do not reuse empty containers. These may contain residues of the product and should be kept closed and sent to landfill for chemical or recycling waste as set out for the product.</p>
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#### 14- TRANSPORT INFORMATION

**International regulations**



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<b>Land:</b>	UN – “United Nations” Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
UN number:	1950
UN proper shipping name:	AEROSOLS
Transport hazard class(es)	2.1
Packing group:	NA
<b>Sea:</b>	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
UN number:	1950
UN proper shipping name:	AEROSOLS
Transport hazard class(es)	2.1
Packing group:	NA
Environmental hazards:	Marine pollutant: Y
EmS:	F-D, S-U
<b>Air:</b>	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number:	1950
UN proper shipping name:	AEROSOLS, FLAMMABLE
Transport hazard class(es)	2.1
Packing group:	NA
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code:	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the



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	Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006; - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions:	There is no need of special precautions.

**15- REGULATORY INFORMATION**

Safety, health and environmental regulations/legislation specific for the substance or mixture:	International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents; Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A,B,C,D, E,F.
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**16- OTHER INFORMATION**

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in: December, 2015.

**Abbreviations:****BCF** – Bioconcentration Factor**CAS** – Chemical Abstracts Service**EC<sub>50</sub>** – Effective Concentration 50%**EC<sub>r50</sub>** – Effective Concentration 50% in terms of reducing of the growth rate**K<sub>oc</sub>** – Organic Carbon Partition Coefficient

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**LC<sub>50</sub>** – Lethal Concentration 50%

**LD<sub>50</sub>** – Lethal Dose 50%

**NA** – Not Applicable

**SCBA** – Self-contained Breathing Apparatus

**UN** – United Nations

**Bibliographic references:**

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