

Material Data Safety Sheet

Products: ESC Treatment
Substance: Blend of Polyacrylamide and Thiamine (B1)
Description: Non-Toxic, bio-degradable liquid concentrate to be added to substrate in early stage plant development as a root polymer envelope has been shown to maintain root moisture levels, increase root mass densities, maintain root silica levels, reduce nutrient treatments and reduce daily water use.

SECTION ONE MANUFACTURER

Manufacturers Name: Inda-Gro
Manufacturers Address: 6176 Federal Blvd.
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SECTION TWO HAZARDOUS INGREDIENTS

Statement of Hazardous Nature: This product is classified as Not Hazardous. Not a Dangerous Good.
Risk Phrases: Not Hazardous – No Criteria Found
Safety Phrases: Wear suitable protective clothing. Avoid contact with skin and eyes.

Emergency Overview:

Physical Description and Color: Clear brownish liquid.
Odor: Mild odor.
Major Health Risks: No significant health risks have been found for this product.

Potential Health Effects:

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. In addition product is unlikely to cause any discomfort or irritation.
Long Term Exposure: No data exists for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be mildly irritating but is unlikely to cause anything more than mild discomfort which should disappear once contact ceases.
Long Term Exposure: No data exists for health effects associated with long term inhalation.

Eye Contact:

Short Term Exposure: This product may be irritating to eyes but is unlikely to cause anything more than mild transient discomfort.
Long Term Exposure: No data exists for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: This product is not meant for oral ingestion. Significant oral exposure is considered to be unlikely. Mild gastro-intestinal discomfort may be experienced if taken in large quantities.
Long Term Exposure: No data exists for health effects associated with long term ingestion.

SECTION THREE PHYSICAL CHEMICAL CHARACTERISTICS

INGREDIENTS	CAS No	Conc, %	TWA (mg/m ³)	STEL (mg/m ³)
Anionic linear polyacrylamide	79-06-1	80	not set	not set
Thiamine (B1)	59-43-8	20	not set	not set

SECTION FOUR FIRST AID MEASURES

General Information:

You should call The Poisons Information Center if you feel that you may have been poisoned, burned or irritated by this product. That number is 1-800-222-1222 and is available at all times. Have this MSDS with you when you call.

- Inhalation:** First aid is not generally required. If in doubt contact a Poisons Information Center or a doctor.
- Skin Contact:** Irritation is unlikely. However if irritation does occur, flush skin with lukewarm, gently flowing water for 5 minutes or until product is removed.
- Eye Contact:** No ill effects expected. If irritation does occur, flush eye(s) with lukewarm water for 5 minutes until the product is removed. Obtain medical advice if irritation becomes painful or last more than a few minutes. Take special care if exposed person is wearing contact lenses.
- Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; rinse out mouth with water and give some water to drink. If symptoms develop or if in doubt contact a Poisons Information Center or a doctor.

SECTION FIVE FIRE FIGHTING MEASURES

- Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.
- Extinguishing Media:** Suitable extinguishing media are carbon dioxide, dry chemical, foam and water fog.
- Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire department.
- Flammability Class:** No data
- Flash Point:** No data
- Upper Flammability Limit:** No data
- Lower Flammability Limit:** No data
- Auto Ignition Temperature:** No data

SECTION SIX ACCIDENTAL RELEASE MEASURES

Accidental Release: Minor spills do not normally need any special cleanup measures. In the event of a major spill, prevent drainage from entering any drains that lead to environmental discharge. As a minimum wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should compromise at minimum, protective glasses and preferably goggles. If there is a significant chance that vapors of mist are likely to build up in the cleanup area, we recommend the use of a respirator. Usually no respirator is necessary when using this product. Stop any leaks if safe to do so and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or absorbent material is not available, try to create a dike to stop material spreading or going into drains. Sweep up and shovel or collect recoverable product into labeled containers for recycling, salvage and dispose of promptly. Recycle containers wherever possible after cleaning. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains advise your local Emergency services. Ensure legality of disposal by consulting state and local regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use.

SECTION SEVEN PROCEDURES AND PRECAUTIONS FOR SAFE HANDLING AND DISPOSAL

Handling: Keep exposure to this product to a minimum and minimize the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimize the risks to persons using the product in the workplace. Also avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Store packages of this product in a cool place. Make sure that containers of this product are kept tightly closed. Keep containers dry and away from water. Keep containers of this product in a well-ventilated area. Make sure that the product does not come in contact with substances listed under "Incompatibles" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging as there may be further storage instructions on the label.

SECTION EIGHT CONTROL MEASURES AND PERSONAL PROTECTION

No special equipment is needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occasional setting occurs without proper containment systems.

Ventilation: No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapors and mists are minimized.

Eye Protection: Eye protection as in protective glasses or goggles is recommended when this product is being used.

Skin Protection: The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However we suggest that you avoid contact with all chemical products and that you wear suitable gloves (preferably elbow length) when skin contact is likely.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC

Respirator: Usually no respirator is necessary when using this product.

SECTION NINE PHYSICAL AND CHEMICAL PROPERTIES

Physical Description and Color:	Clear amber colored liquid
Odor:	Odorless
Boiling Point:	100° C
Freezing/Melting Point:	No Specific Data. Liquid at room temperatures
Volatiles:	No data
Vapor Pressure:	No data
Specific Gravity:	1.0
Water Solubility:	Miscible
pH:	6.5-6.7
Volatility:	No data
Odor Threshold:	No data
Evaporation Rate:	No data
Coif Oil/Water Distribution:	No data
Auto Ignition Temperature:	No data

SECTION TEN STABILITY AND REACTIVITY

Reactivity: This product is unlikely to react or decompose under normal storage conditions.

Conditions to Avoid: This product should be kept in a cool place. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.

Incompatibilities: Strong acids, strong bases, strong oxidizing agents.

Fire Decomposition: Carbon dioxide and if combustion is incomplete, carbon monoxide, smoke, nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing Atmospheres, water. Carbon monoxide poisoning produces headaches, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment and unconsciousness followed by coma and death.

Polymerization: This product will not undergo polymerization reactions.

SECTION ELEVEN**TOXICOLOGICAL INFORMATION**

Local Effects: No data

Target Organs: There is no data at hand that would indicate any toxicological effects to target organs.

SECTION TWELVE**ECOLOGICAL INFORMATION**

Eco Toxicity: Anionic polyacrylamide has no systemic toxicity to aquatic organisms or micro-organisms

Persistence/Degradability: Non-degraded anionic polyacrylamide has been shown to be recalcitrant to microbial degradation. This is most likely due to the extremely high molecular weight which renders microbial attack very difficult. However once the polymer has been degraded through photolysis (i.e., the action of UV light) and the macromolecule broken down into oligomers, it becomes bio-available and bio-mineralized.

Anionic polyacrylamide has not potential to bio accumulate being completely soluble in water (only limited by viscosity) and insoluble in octane.

Environmental Protection: Do not discharge this material into drains, sewers or waterways.

SECTION THIRTEEN**DISPOSAL CONSIDERATIONS**

Disposal: This product may be recycled if unused, or if it is not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to separate the contamination in some way. Only if neither of these operations is suitable consider landfill.

SECTION FOURTEEN**TRANSPORT INFORMATION**

DOT Code: This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

SECTION FIFTEEN**REGULATORY INFORMATION**

Section 313 (Title III Superfund and Reauthorization Act)

<http://orise.orau.gov/emi/hazards-assessment/files/resources/epa-title3.pdf>

SECTION SIXTEEN**OTHER INFORMATION**

This MSDS contains only safety related information. For other data see product literature. Additional information may be found @ National Toxicology Program (USA) <http://ntp-server.niehs.nih.gov/>

Inda-Gro reserves the right to modify and update the materials listed within this document under future updated revisions Inda-Gro has utilized their best efforts to provide current, complete and accurate information regarding their products and all components listed herein/ We make no representations regarding the accuracy or completeness of the information and assume no liability for any loss damage or injury of any kind which may result from, or arise out of, the use of, or reliance on the information presented herein by any entity or person. Each user who comes in contact with these products should be given a copy of this MSDS to familiarize themselves with all aspects regarding the safe handling and use of these products.

For Poison Emergencies in the USA call 1-800-222-1222