Conforms to HazCom 2012/United States

SAFETY DATA SHEET

Clearcast

Herbicide

Section 1. Identification

GHS product identifier: Clearcast Herbicide
Other means of identification: Not available.
EPA Registration No.: 241-437-67690

Supplier's details :

SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm
E.S.T. www.sepro.com

Emergency telephone number (with hours of operation): **INFOTRAC - 24-hour service 1-800-535-5053**

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.

Section 2. Hazards identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product: No need for classification according to GHS criteria for this product.

Label elements (Emergency overview) The product does not require a hazard warning label in accordance with GHS criteria.

Hazards not otherwise classified
Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity:
0 - 2 % dermal
0 - 2 % oral
15 - 18 % Inhalation - vapor
15 - 18 % Inhalation – mist

Emergency overview

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAUTION:
HARMFUL IF ABSORBED THROUGH SKIN.
HARMFUL IF INHALED.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapors.

Section 3. Composition/information on ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
247057-22-3	12.1%	ammonium salt of imazamox (active ingredient)

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
247057-22-3	12.1%	ammonium salt of imazamox (active ingredient)
	87.9%	Proprietary ingredient

Section 4. First aid measures

Description of first aid measures

General advice: First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled: Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin: Rinse skin immediately with plenty of water for 15 - 20 minutes.

If in eyes: Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing.

If swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed Symptoms: No significant reaction of the human body to the product known.

Indication of any immediate medical attention and special treatment needed

Note to physician — Treatment: Symptomatic treatment (decontamination, vital functions).

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media:
Foam, dry powder, carbon dioxide, water spray

Special hazards arising from the substance or mixture

Hazards during fire-fighting: carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Ammonium, Hydrocarbons, If product is heated above decomposition temperature, toxic vapours will be released. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

Section 6. Accidental release measures

Personal precautions

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

Section 7. Handling and storage

Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until

ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapors. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion: The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

Conditions for safe storage, including any incompatibilities Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Storage stability: If substance/product crystallizes, thaw at room temperature.

Protect from temperatures below: 0 °C. Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
Protect from temperatures above: 40 °C. Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

Section 8. Exposure controls/personal protection

Users of a pesticidal product should refer to the product label for personal protective equipment requirements.

Advice on system design: Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

Personal protective equipment

RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:

Respiratory protection: Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:	Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.
Eye protection:	Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.
Body protection:	Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.
General safety and hygiene measures:	Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

Section 9. Physical and chemical properties

Form:	liquid
Odor:	acidic, mild
Odor threshold:	No data available.
Color:	pale, yellow, clear
pH value:	approx. 5 – 7 (20 °C)
Freezing point:	approx. 0 °C (1,013.3 hPa) Information applies to the solvent.
Boiling point:	approx. 100 °C (1,013.3 hPa) Information applies to the solvent.
Flash point:	A flash point determination is unnecessary due to the high water content.
Flammability:	Based on the structure or composition there is no indication of flammability
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Autoignition:	Based on the water contents the product does not ignite.
Vapor pressure:	approx. 23.3 hPa (20 °C) Information applies to the solvent.
Density:	1.0486 g/cm3 (20 °C) 8.7510 Lb/USg (68 °F)

Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Thermal decomposition:	carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Ammonium, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.
Viscosity, dynamic:	approx. 3.7 mPa.s (20 °C)
Solubility in water:	soluble
Molar mass:	320.4 g/mol
Other information:	If necessary, information on other physical and chemical parameters is indicated in this section.

Section 10. Stability and reactivity

Reactivity

Additional information:	No hazardous reactions if stored and handled as prescribed/indicated.
Corrosion to metals:	Corrosive effects to metal are not anticipated.
Oxidizing properties:	Not an oxidizer.
Chemical stability	The product is stable if stored and handled as prescribed/indicated.
Possibility of hazardous reactions Hazardous reactions:	The product is chemically stable. No hazardous reactions if stored and handled as prescribed/indicated.
Conditions to avoid Conditions to avoid:	Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge. Avoid prolonged storage. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.
Incompatible materials Substances to avoid:	oxidizing agents
Hazardous decomposition products Decomposition products:	Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.
Thermal decomposition:	Possible thermal decomposition products: carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, Ammonium, Hydrocarbons Stable at ambient temperature. If product is heated above decomposition temperature toxic vapours may be released. If product is heated above decomposition temperature hazardous fumes may be released.

Section 11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity:

Relatively nontoxic after single ingestion. Slightly toxic after short-term skin contact. Relatively nontoxic after short-term inhalation.

contact.

Product/ingredient name	Result	Species	Dose	Exposure
Clearcast	LC50 Inhalation Vapor	Rat	>5 mg/L	4 hours
	LD50 Dermal	Rat	>4000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-

Irritation / corrosion

Assessment of irritating effects:

May cause slight but temporary irritation to the eyes. May cause slight irritation to the skin.

Information on: isopropylamine

Assessment of irritating effects: Highly corrosive! Damages skin and eyes. Causes temporary irritation of the respiratory tract.

Product/ingredient name	Result	Species	Score	Exposure	Observation
Clearcast	Eyes – non-irritating	Rabbit	-	-	-
	Skin – non-irritating	Rabbit	-	-	-

Sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential. modified Buehler test
Species: guinea pig
Result: Skin sensitizing effects were not observed in animal studies.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organ toxicity was observed after repeated administration to animals.

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Information on: imazamox

Assessment of carcinogenicity:

In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed.

Reproductive toxicity
Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Information on: imazamox
Assessment of reproduction toxicity: *The results of animal studies gave no indication of a fertility impairing effect.*

Teratogenicity
Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Information on: imazamox
Assessment of teratogenicity: *No indications of a developmental toxic / teratogenic effect were seen in animal studies.*

Other Information: Misuse can be harmful to health.

Symptoms of Exposure: No significant reaction of the human body to the product known.

Section 12. Ecological information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity: There is a high probability that the product is not acutely harmful to aquatic organisms.

Aquatic plants
EC50 (72 h) > 100 mg/l (growth rate), *Pseudokirchneriella subcapitata*

Toxicity to fish
Information on: imazamox: *LC50 (96 h) > 119 mg/l, Lepomis macrochirus*

Aquatic plants
Information on: imazamox:
EC50 (72 h) 29.1 mg/l (growth rate), Pseudokirchneriella subcapitata
EC50 (7 d) 0.031 mg/l (growth rate), Lemna gibba

Assessment of terrestrial toxicity: With high probability not acutely harmful to terrestrial organisms.

Other terrestrial non-mammals
Information on: imazamox:
LC50, Anas platyrhynchos
LD50 > 100 ug/bee, Apis mellifera

Persistence and degradability

Assessment biodegradation and elimination (H2O): The product has not been tested. The statement has been derived from the properties of the individual components.

Elimination information: Not readily biodegradable (by OECD criteria).

Bioaccumulative potential

Assessment bioaccumulation potential: The product has not been tested. The statement has been derived from the properties of the individual components.

Mobility in soil

Assessment transport between environmental compartments: The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazamox: *The substance will not evaporate into the atmosphere from the water surface. Following exposure to soil, the product trickles away and can - dependant on degradation – be transported to deeper soil areas with larger water loads.*

Additional information

Other ecotoxicological advice: The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

Section 13. Disposal considerations

Waste disposal of substance: Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal: Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA: This product is not regulated by RCRA.

Section 14. Transport information

Land transport

USDOT: Not classified as a dangerous good under transport regulations

Sea transport

IMDG: Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO: Not classified as a dangerous good under transport regulations

Section 15. Regulatory information

Federal Regulations

Registration status:

Chemical	TSCA, US	blocked / not listed
Crop Protection	TSCA, US	released / exempt

EPCRA 311/312 (Hazard categories): Not hazardous

State regulations

CA Prop. 65: There are no listed chemicals in this product.

Labeling requirements under FIFRA

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

CAUTION:
HARMFUL IF ABSORBED THROUGH SKIN.
HARMFUL IF INHALED.
KEEP OUT OF REACH OF CHILDREN.
KEEP OUT OF REACH OF DOMESTIC ANIMALS.
Avoid contact with the skin, eyes and clothing.

Section 16. Other information

SDS Prepared by:
SePRO Corporation
SDS Prepared on: 05/14/15

Notice to reader
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.