First print date: 2016/04/13

Version: 5.2

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: ERADICATE PLUS 720 EC

Additional information: Product code ERAP 720EC

Relevant identification uses of the substance and uses advised against:

Identified uses: Herbicide.

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

AECI Limited
14 Field Road, LILIANTON

Emergency telephone numbers:

Griffon Poison information centre: 082 446 8946
Poisons Information Helpline: 0861 555 777
AECI Limited: (011) 823 8000 (o/h) Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified according to:

SANS 10234:2019, Regulation EC 1272/2019 [EU-GHS/CLP]

Hazard Classes/Hazard Categories	Hazard Statements
Acute Toxicity Oral (Category 4)	H302
Aspiration Hazard (Category 1)	H304
Skin Corrosion/Irritation (Category 2)	H315
Serious Eye Damage/Irritation (Category 2)	H319

For full text of H statements see section 16

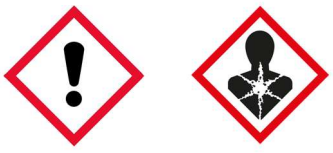
The most important adverse effects

The most important adverse physiochemical effects: None known.

The most important adverse human health effects: Harmful if swallowed. May be fatal if product enters airways and causes serious eye and skin irritation.

Label elements

Hazard pictograms:



Hazard Statements: H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation.

Precautionary Statements:

General:

P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read carefully and follow all instructions.

Prevention:

P270 Do not eat, drink, or smoke when using this product. P280 Wear protective gloves, protective clothing, eye, and face protection. P264 + P265 Wash hands and face thoroughly after handling. Do not touch eyes.

Response:

P330 Rinse mouth. P331 Do NOT induce vomiting. P301 + P316 IF SWALLOWED: Get emergency medical help immediately. P302 + P352 IF ON SKIN: Wash with plenty of water. P332 + P317 If skin irritation occurs: Get medical help. P337 + P 317 If eye irritation persists: Get medical help. P362 + P362 Take off contaminated clothing and wash it before reuse. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Disposal:

P501 Dispose of contents/container to a licensed hazardous waste facility in accordance with local and national regulations.

Special labelling of certain mixtures: None.

Other hazards: None.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Ingredients:

Substance name (IUPAC/EC)	CAS –No. EC-No.	Concentration % by weight	GHS Classification
EPTC	759-94-4 212-073-8	70-80%	Acute Toxicity Oral (Category 4) H302.
Light aromatic petroleum solvent	64742-95-6 265-199-0	10 - 20%	Flammable Liquid (Category 3) H226. Aspiration Hazard (Category 1) H304. Skin Corrosion/Irritation (Category 3) H316. STOT SE (Category 3) H335 & H336. Respiratory Tract. Narcotics effect. Aquatic Toxicity Acute (Category 2) H401. Aquatic Toxicity Chronic (Category 2) H411.
Dichlormid	37764-25-3 253-658-8	5 -10%	Skin Corrosion/Irritation (Category 2) H315.
Calcium dodecylbenzene sulphonate	26264-06-2 247-557-8	<5%	Skin Corrosion/Irritation (Category 2) H315. Serious Eye Damage/Irritation (Category 1) H318. Aquatic Toxicity Chronic (Category 3) H412.

2-Methylpropan-1-ol	78-83-1 201-148-0	<1%	Flammable Liquid (Category 3) H226. Skin Corrosion/Irritation (Category 2) H315. Serious Eyes Damage/Irritation (Category 1) H318. STOT SE (Category 3) H335 & H336.

For full text of H statements see section

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.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT give mouth-to-mouth resuscitation if victim ingested or inhaled the substance. Keep person at rest and warm. Treat symptomatically and supportively as and when required. Obtain medical advice if necessary.

In case of skin contact: In case of contact, remove any contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation occurs and persists.

In case of eye contact: Check for and remove any contact lenses. In case of contact, hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Cold water may be used. Obtain medical attention if irritation occurs and persists.

In case of ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If conscious, rinse moth thoroughly with water. Loosen tight clothing such as a collar, tie, belt, or waistband. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Refer for medical attention without delay.

Most important symptoms and effects, both acute and delayed:

Inhalation: May be fatal if swallowed and product enters airways.

Ingestions: Harmful if swallowed.

Skin contact: May cause mild skin irritation e.g., redness.

Eye contact: Causes serious eye irritation e.g., redness.

Symptoms and effects are not available for the product. EPTC is an acetylcholinesterase inhibitor and a potent neurotoxin that could cause excessive salivation and eye-watering in low dose. Symptoms of exposure to EPTC may include headache, giddiness, nervousness, blurred vision, weakness, nausea, cramps, diarrhoea, sweating, miosis, tearing, salivation, vomiting and cyanosis.

Indication of any immediate medical attention and special treatment needed:

Medical attention is required if exposure to the product. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media: Carbon dioxide, dry powder, or alcohol-resistant foam.

SMALL FIRE: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

LARGE FIRE: Water spray can be used for larger fires or cooling of unaffected stock. Contain fire control water for later disposal. Avoid the run-off of polluted fire water from the site.
Unsuitable extinguishing media: Do not use high volume water jet, due to contamination risk.

Special hazards arising from the mixture:

During a fire, irritating and possibly toxic gasses may be generated by thermal decomposition or combustion e.g., oxides of nitrogen and sulphur. Closed container may explode if pressure builds up.

Advice for fire-fighters:

Isolate the fire area and evacuate downwind. Remove containers from fire area if possible and without risk. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Avoid inhaling hazardous vapours and smoke. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an approved/certified respirator or equivalent.
Contain and collect fire control water for later disposal. Avoid pollution of waterways.

SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

For emergency responders: Isolate the spill area and limit the access to emergency responders only. Remove all ignition sources. Wear appropriate protective clothing recommended in Section 8 of the SDS. Do not breathe in fumes/vapour and avoid contact of the spilt material with eyes, skin, or clothes. Evacuate personnel to a safe area when necessary. Ventilate the area of the spill or leak, especially when in confined areas.
Do not touch or walk through spilled material as it could be slippery when spilt. Contain spills if it can be done without risk and clean-up immediately. Avoid inhalation of the product and wear respiratory protection if necessary.
For non-emergency personnel: Keep all personal away. Avoid contact with skin, eyes, and clothing.

Environmental precautions:

Prevent spillage or further leakage if safe to do so. Do not allow the spilt product to enter water courses and drains and avoid contact with soil. Do not allow the spilt product to spread to other areas - keep the spilt material contained and isolated. Report spills and releases as required to appropriate authorities if the spilt product has caused environmental pollution (sewers, water ways, soil, or air).

Methods for containment and cleaning up:

For small spills: Contain the spilled material if possible. Sweep up with damp absorbent material from the spill kit. Place into a labelled waste container with a shovel and cover for subsequent disposal. Dispose of collected spilt material as hazardous waste. Clean the contaminated surface with water to remove any residues of the spilt product. Keep the wash water out of drains, sewers, and waterways.

For large spills: Prevent entry into sewers, water courses, basements, or confined areas. Use non-sparking tools to clean up the spilt product. Contain and collect spillage with non-combustible, suitable absorbent material e.g., spill pillows, commercial absorbent, vermiculite, or absorbent pads/rolls/scatter, and place in well labelled container for disposal according to local regulations.

Reference to other sections:

See section 7 for information on safe handling.
See section 8 for information on personal protection equipment.
See section 13 for information on disposal.

Additional information:
None.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:
Always provide good ventilation in the work area. Do not breathe vapours or mist. Prevent the product from getting into the eyes or on skin and clothing. Wear protective clothing and equipment during handling as described in Section 8 of the SDS. Wash the hands and face thoroughly with soap after handling. Keep containers closed when not in use. Do not permit smoking in use or storage areas. Locate emergency showers and eye-rinsing facility near the work/handling area. Remove contaminated clothing immediately if the product gets inside. Launder contaminated clothing before re-use. Contaminated work clothing should not be allowed out of the workplace. Work clothes should be laundered separately. Keep unprotected persons away from the area where the product is being applied.

Protective measures: Observe directions on label and instructions for use.
Advice on general occupational hygiene: Do not eat or drink when handling this product. Regular cleaning of work area and work clothing is recommended. Maintain good normal industrial hygiene and housekeeping practices in areas where the product is used/handled.

Conditions for safe storage, including incompatibilities:
Store product in a segregated and approved area below 35^{o}C. Avoid all potential sources of ignition (spark or flame).
The entrance to storage facilities should be granted only to appropriately trained personnel. Always store locked up and keep containers tightly closed when not in use. Store only in properly labelled containers. The formulation is stable if stored well ventilated, out of direct sunlight, cool and free of moisture and high humidity. Keep out of reach of children, uninformed persons, and animals.
Protect containers from physical damage and check the condition of storage containers periodically (e.g., for leaks). Do not contaminate water, food, or feed by storage or disposal. Avoid cross contamination with other agricultural products. It is recommended to have appropriate spill control kits equipped with absorbent material near storage areas (see Section 6). Store away from incompatible materials like acids, peroxides, and acid halides, and in accordance with national and local regulations.

Specific end uses:
Use as directed. Use original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL): An occupational exposure limit for 2-Methylpropan-1-ol (Iso butanol) has been set by the South African Department of Labour and Employment:

Component	Type	Control Parameter	Update	Basis
2-Methylpropan-1-ol	OEL- eight-hour TWA	100 ppm	2021	South African RELs*

*REL: Recommended Exposure Limit.

OEL- eight-hour TWA: Occupational Exposure Limit- Time Weighted Average. Calculated over an eight-hour working day, for a five-day working week.

Biological exposure indices (BEI): No information available.

Additional exposure limits under the conditions of use: No information available.

Exposure control:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure controls.

Appropriate engineering controls: Local exhaust ventilation is recommended.

Hygiene measures: Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection: Safety goggles together with a face shield is recommended when a full-face respirator is not used.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/Butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Appropriate impervious clothing is required to prevent skin contact with the product.

Respiratory protection: During spraying and handling, an approved respirator (full face mask) with a particulate filter and an organic vapour cartridge or supplied air respirator is recommended. Institute a respiratory protection program that includes the selection, fit testing, training, maintenance, and inspection of the respiratory equipment. Consult with respirator manufacturer to determine respirator selection, use and limitations. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Liquid.

Colour: Light yellow.

Odour: Aromatic.

Odour threshold: No information available.

pH (at concentration): 7.8 (1% solution in tap water).

Melting point/range (°C): No information available.

Boiling point/range (°C): No information available.

Flash point (°C): 76^{0}C (ASTM D93).

Evaporation rate: No information available.

Flammability (solid, gas, liquid): Combustible liquid.

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

Vapour pressure (20°C): No information available.

Vapour density: No information available.

Density (25°C): 0.96-0.97 g/ml.

Water solubility (g/l) at 20°C: No information available.

n-Octanol/Water partition coefficient: No information available.

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity: No information available.

Physical hazards:

Explosive properties: Not explosive.

Oxidising properties: Not an oxidiser.

Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.

Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

The product is stable under normal conditions. Avoid elevated temperatures.

Chemical stability:

Stable under normal storage conditions for 2 years.

Possibility of hazardous reactions:
No information available.

Conditions to avoid:
Heat, sparks, flames, and build-up of static electricity.

Incompatible materials:
Acids, peroxides, and acid halides.

Hazardous decomposition products:
Oxides of carbon, nitrogen and sulphur, smoke, and toxic gases may be released in thermal decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution:
Non-human toxicological data: No Information available.

Information on likely routes of exposure
The product may be absorbed into the body by inhalation or by ingestion. The product may come into contact with the skin or eyes.

Information on toxicological effects:
Acute toxicity: Experimental toxicological data are not available for the product. The classification is based on the data of the ingredients/components.

Assessment of acute toxicity:

Product/ingredient Name	Dose Acute -	Species	Test Result
ERADICATE PLUS 720 EC	1 005 mg/kg	Rat	$ATE_{(MIX)}$ Oral
EPTC	760 mg/kg	Rat	LD_{50} Oral
EPTC	>2 000 mg/kg	Rat	LD_{50} Dermal
EPTC	4.3 mg/l (Male) 3.8 mg/l (Female)	Rat	LC_{50} Inhalation (4h)
Dichlormid	>2 000 mg/kg	Rat	LD_{50} Oral
Dichlormid	>4 000 mg/kg	Rabbit	LD_{50} Dermal
Dichlormid	>3.0 mg/l	Rat	LC_{50} Inhalation (4h)

Chronic toxicity: No information available.

Skin corrosion/irritation:

Based on available data, the classification criteria are met for skin irritation.
Dichlormid and Calcium Dodecyl Benzene Sulphonate: Causes skin irritation (rabbit).

Serious eye damage/irritation:
Based on available data, the classification criteria are met for serious eye irritation.
Calcium Dodecyl Benzene Sulphonate: OECD 405 Eye Rabbit. Causes serious eye damage. By analogy to product with similar composition.

Respiratory or skin sensitization:
Based on available data, the classification criteria are not met.
Note: Dichlormid causes mild skin sensitization in guinea pigs.

Germ cell mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity:
Based on available data, the classification criteria are not met.

STOT-single exposure:
Based on available data, the classification criteria are not met.
Note: Exposure to high levels of light aromatic petroleum solvent could produce acute central nervous system depression in humans and experimental animals. May cause respiratory irritation. May cause drowsiness or dizziness (narcotic effect), nausea, and loss of consciousness.

STOT-repeated exposure:
Based on available data, the classification criteria are not met.
Aromatic petroleum solvent - prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis in sensitive individuals.

Aspiration hazard:
Based on available data, the classification criteria are met.
Light Aromatic Petroleum Solvent: If aspirated into the lungs may cause chemical pneumonitis.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:
The product could be harmful to aquatic organisms. It does enter the environment under normal use. Great care, however, should be taken to avoid any additional release, for example through inappropriate disposal.

No eco-toxicological data is available for the formulated product. This ecological assessment is based on data for the ingredients.

Aromatic petroleum solvent:
Fish: LC/EC_{50} (96 h) for Salmon 8.1 mg/ ℓ.

Aquatic organisms: LC/EC_{50} (8 h) for Green Algae 9.4 mg/ ℓ.

Dichlormid:
Birds: Dietary LC_{50} for mallard ducks 14 500 mg/kg, Bobwhite quail >10 000 mg.kg.
Fish: LC_{50} (96 h) for Rainbow trout 1441 mg/ℓ.
Daphnia: LC_{50} (48 h) 161 mg/ℓ.

Calcium dodecylbenzene sulphonate:
Toxicity to fish: LC_{50} (96h) 1 mg/ ℓ.
Aquatic toxicity crustacean: EC_{50} (48h) *Daphnia Magna*, 2.9 mg/ ℓ.
Aquatic toxicity algae: EC_{50} (96h) 28 mg/ ℓ.

EPTC:
Birds: Dietary LC_{50} for Bobwhite quail 20 000 mg.kg diet.
Fish: LC_{50} (96 h) for Rainbow trout 19 mg/ℓ, Bluegill sunfish 14 mg/ℓ.
Daphnia: LC_{50} (48 h) 14 mg/ℓ.
Bees: LD_{50} 0.011 mg/bee.
Worms: LC_{50} (14 d) 267 mg/kg

Persistence and degradability:
EPTC: Biodegradation is reported to be the main removal process of EPTC once incorporated into soil. The aerobic biodegradation half-life of EPTC in soil is about 4-5 weeks. Soil biodegradation studies suggest that EPTC is somewhat more persistent under anaerobic conditions with half-lives of 31 to 127 days.

Bio-accumulative potential:
No information available for the product.
EPTC: BCFs ranging from 37-110 suggest the potential for bioconcentration in aquatic organisms is moderate to high.

Mobility in soil
EPTC:
If released to soil, EPTC is expected to have moderate mobility based upon a range of K_{ocs} of 170-280. Volatilization from moist soil surfaces is expected to be an important fate process.

Results of PBT& vPvB assessment:
No information available.

Other adverse effects:
No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:
Treat as hazardous waste and do not dispose of the product or empty containers as general waste Dispose product related waste in accordance with all local regulations and prevent the contamination of water, food, or feed by storage or disposal of the waste. Do not use empty containers for any other purpose. Special help is available for the disposal of Agricultural Chemicals. The product label will supply general advice regarding disposal of small quantities, and how to cleanse containers. Avoid and minimize the generation of waste.

Product/ packaging disposal:

Treat contaminated packaging as hazardous waste as dispose of in accordance with local regulations. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying and offer for recycling - if an available option. Recondition if appropriate, or puncture and dispose of in a hazardous waste landfill, or by other procedures approved by the local authorities.

SECTION 14. TRANSPORT INFORMATION

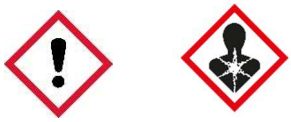
	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	Not required	Not required	Not required
UN Proper shipping name:	Not required	Not required	Not required
Transport hazard class:	Not required	Not required	Not required
Packaging group:	Not required	Not required	Not required
Marine pollutant:	No	No	No
Special precautions for user:	No information	No information	No information
Transport in bulk according to MARPOL 73/78 Annex II and the IBC code	No information	No information	No information

Inland waterways: Not required.

Dangerous goods "Single Packaging" GHS pictogram requirements (e.g., drums and IBCs):

No dangerous goods transport markings and labels are required.

GHS hazard warning label required that includes:



Emergency response information: No information available.

SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

ACGIH: American Conference of Governmental Industrial Hygienists (ACGIH)

Relevant information regarding restrictions: No.

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP] and EU directives 67/548/EEC or EC 1999/45/EC

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No

SECTION 16. OTHER INFORMATION

Indication of changes:

All sections.

Relevant classification and H statements (number and full text):

Flammable Liquid (Category 3).
Acute Toxicity Oral (Category 4).
Aspiration Hazard (Category 1).
Skin Corrosion/Irritation, (Category 2).
Skin Corrosion/Irritation, (Category 3).
Serious Eye Damage (Category 1).
STOT SE-3 Specific Target Organ Toxicity single exposure (Category 3).
Aquatic Toxicity Acute (Category 2).
Aquatic Toxicity Chronic (Category 2).
Aquatic Toxicity Chronic (Category 3).

H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H316: Causes mild skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H401 Toxic to aquatic life. H411 Toxic to aquatic life with long lasting effects. H412: Harmful to aquatic life with long lasting effects.

Training instructions:

Use as indicated on the label, special training may be required for application.

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.