according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

SECTION 1. IDENTIFICATION

Product name : Proxy Growth Regulator

Product code : Article/SKU: 04249932 UVP: 05927285 Specification:

102000004255 EPA Registration No: 101563-40

Manufacturer or supplier's details

Company name of supplier : Environmental Science U.S. LLC.

Address : 5000 Centregreen Way, Suite 400

Cary NC 27513

Telephone : 1-800-331-2867

Emergency telephone : +1 703-741-5970

E-mail address : uscontact@envu.com

Recommended use of the chemical and restrictions on use

Recommended use : Growth regulator

Restrictions on use : See product label for restrictions.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin irritation : Category 2

Serious eye damage : Category 1

GHS label elements

Hazard pictograms

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary Statements : Prevention:

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves, eye protection and face protec-

tion.

Response:

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER.

P321 Specific treatment (see supplemental first aid instructions

on this label).

P332 + P313 If skin irritation occurs: Get medical attention. P362 + P364 Take off contaminated clothing and wash it before

reuse.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Soluble concentrate (SL)

Components

Chemical name	CAS-No.	Concentration (% w/w)
Ethephon	16672-87-0	>= 20 - < 30

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting.

Get medical attention if symptoms occur. Rinse mouth thoroughly with water.

Most important symptoms : No symptoms known or expected.

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 05/28/2024 11282042-00002 Date of first issue: 10/11/2023 2.0

and effects, both acute and

delayed

Causes skin irritation.

Causes serious eye damage.

Protection of first-aiders First Aid responders should pay attention to self-protection,

> and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

There is no specific antidote available. Notes to physician

Treat symptomatically. Contraindication: atropine.

Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, admi-

nister activated charcoal and sodium sulphate.

After oral ingestion of undiluted ethephon, treatment must

follow the regimens for acid ingestion.

Appropriate supportive and symptomatic treatment as indica-

ted by the patient's condition is recommended.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray

> Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Chlorine compounds Oxides of phosphorus

Carbon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

SO

Evacuate area.

Special protective equipment :

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- :

tive equipment and emer-

gency procedures

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

Avoid release to the environment. Environmental precautions

Prevent further leakage or spillage if safe to do so.

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

Prevent spreading over a wide area (e.g., by containment or

oil barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material.

For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine

which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Do not get on skin or clothing.

Avoid inhalation of vapor or mist.

Do not swallow. Do not get in eyes.

Wash skin thoroughly after handling.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as-

sessment

Keep container tightly closed. Keep away from water.

Protect from moisture.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Keep tightly closed.

Store in accordance with the particular national regulations. Reacts with many metals to liberate hydrogen gas which can form explosive mixtures with air. Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

Gases

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethylene	74-85-1	TWA	200 ppm	ACGIH
Phosphoric acid	7664-38-2	TWA	1 mg/m³	ACGIH
		STEL	3 mg/m³	ACGIH
		TWA	1 mg/m³	NIOSH REL
		ST	3 mg/m³	NIOSH REL
		TWA	1 mg/m³	OSHA Z-1

Engineering measures

Processing may form hazardous compounds (see section

10).

Ensure adequate ventilation, especially in confined areas.

Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : > 0.4 mm
Protective index : Class 6

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of

workday.

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

Eye protection : Wear the following personal protective equipment:

Chemical resistant goggles must be worn.

If splashes are likely to occur, wear:

Face-shield

Skin and body protection : Select appropriate protective clothing based on chemical

resistance data and an assessment of the local exposure

potential.

Skin contact must be avoided by using impervious protective

clothing (gloves, aprons, boots, etc).

Hygiene measures : If exposure to chemical is likely during typical use, provide

eye flushing systems and safety showers close to the wor-

king place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless, brown

Odor : characteristic

Odor Threshold : No data available

pH : ca. 0.8 (73 °F / 23 °C)

Concentration: 100 %

(undiluted)

Melting point/freezing point : 23 °F / -5 °C

Initial boiling point and boiling :

range

No data available

Flash point : boils before flash

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower : No data available

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

flammability limit

Vapor pressure : < 0.013 hPa (77 °F / 25 °C)

Relative vapor density : No data available

Density : ca. 1.11 g/cm³ (68 °F / 20 °C)

Solubility(ies)

Water solubility : soluble

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : No data available

Decomposition temperature : 338 °F / 170 °C

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle characteristics

Particle size : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

Can react with strong oxidizing agents.

Hazardous decomposition products will be formed upon con-

tact with water or humid air.

Conditions to avoid : Exposure to moisture.

Incompatible materials : Oxidizing agents

Bases Water

Hazardous decomposition products

Contact with water or humid : Ethylene

air Phosphoric acid

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: 2.0 05/28/2024 11282042-00002

Date of last issue: 10/11/2023 Date of first issue: 10/11/2023

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Skin contact Ingestion Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : LD50 (Rat): 4,400 mg/kg

Acute inhalation toxicity :

Acute toxicity estimate: 15.08 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Components:

Ethephon:

Acute oral toxicity : LD50 (Rat, female): 1,564 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 3.26 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit, female): 983 mg/kg

Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Product:

Species : Rabbit Result : Skin irritation

Components:

Ethephon:

Species : Rabbit

Result : Corrosive after 1 to 4 hours of exposure

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit

Result : Irreversible effects on the eye

Components:

Ethephon:

Result : Irreversible effects on the eye Remarks : Based on skin corrosivity.

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Components:

Ethephon:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Test Type: Chromosome aberration test in vitro

Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Ethephon:

Species : Mouse
Application Route : Ingestion
Exposure time : 78 weeks
Result : negative

IARC No ingredient of this product present at levels greater than or equal to 0.1% is

identified as probable, possible or confirmed human carcinogen by IARC.

OSHANo component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Components:

Ethephon:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 416

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Components:

Ethephon:

Assessment : No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Ethephon:

Species: MouseNOAEL: 22 mg/kgLOAEL: 69 mg/kgApplication Route: IngestionExposure time: 28 Days

Aspiration toxicity

Not classified based on available information.

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version 2.0

Revision Date: 05/28/2024

SDS Number: 11282042-00002

Date of last issue: 10/11/2023 Date of first issue: 10/11/2023

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Ethephon:

Toxicity to fish

: LC50 (Oncorhynchus mykiss (rainbow trout)): 47 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1,000 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Lemna gibba (gibbous duckweed)): > 1.6 mg/l

Exposure time: 14 d

ErC50 (Lemna gibba (gibbous duckweed)): > 1.6 mg/l

Exposure time: 72 h

EC10 (Lemna gibba (gibbous duckweed)): 0.21 mg/l

Exposure time: 14 d

EC10 (Lemna gibba (gibbous duckweed)): 0.21 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 43 mg/l

Exposure time: 34 d

Method: OECD Test Guideline 210

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 67 mg/l

Exposure time: 21 d

Persistence and degradability

No data available

Bioaccumulative potential

Components:

Ethephon:

Partition coefficient: noctanol/water log Pow: -1.89

Mobility in soil

No data available

Other adverse effects

No data available

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : It is best to use all of the product in accordance with label

directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local

guidelines.

Do not dispose of waste into sewer.

Contaminated packaging : Follow advice on product label and/or leaflet.

Empty containers retain residue and can be dangerous.

Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Skin corrosion or irritation

Serious eye damage or eye irritation

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 2.0 05/28/2024 11282042-00002 Date of first issue: 10/11/2023

SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Pennsylvania Right To Know

 Water
 7732-18-5

 Ethephon
 16672-87-0

 Hydrochloric acid
 7647-01-0

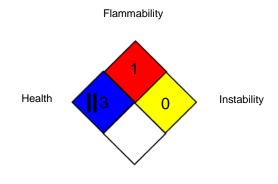
Active substance : 240 g/l

Ethephon

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Special hazard

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded

at any time during a workday

OSHA Z-1 / TWA : 8-hour time weighted average

according to the OSHA Hazard Communication Standard



Proxy Growth Regulator

Version Revision Date: SDS Number: Date of last issue: 10/11/2023 05/28/2024 11282042-00002 Date of first issue: 10/11/2023 2.0

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC -International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods: IMO - International Maritime Organization: ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship: RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

Data Sheet

Revision Date 05/28/2024

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8