

SAFETY DATA SHEET

Version 3
11/2017

1. Identification of the Substance / Preparation and of the Company / Undertaking

Product Name: CASE Thirty Plus
Synonyms: Hay Treatment
Recommended Use: Animal feed, animal pharmaceutical, agriculture applications
Company Name:
HARVEST TEC, INC., PO Box 63, Hudson, WI 54016 (715) 386-9100

Emergency Telephone:
CHEMTREC: 1-800-424-9300 or 703-527-3887

2. Hazards Identification

GHS - Classification

| | |
|--------------------------|------------|
| Chronic aquatic toxicity | Category 3 |
|--------------------------|------------|

Signal Word: Danger

Hazard Statements:

- Harmful to aquatic life with long lasting effects

Physical Hazards

- None

Precautionary Statements:

- Avoid release to the environment
- Dispose of contents/ container to an approved waste disposal plant

3. Composition / Information on Ingredients

Hazardous

| Chemical Name | CAS No | Weight-% | EC No |
|-------------------------------|------------|----------|-----------|
| Citric acid | 77-92-9 | <1 | 201-069-1 |
| Propanoic acid, ammonium salt | 17496-08-1 | 30-40 | 241-503-7 |
| Propionic acid | 79-09-4 | 30-40 | 201-176-3 |

Non-Hazardous

| Chemical Name | CAS No | Weight-% | EC No |
|----------------------------|-----------|----------|-----------|
| Water | 7732-18-5 | Balance | 231-791-2 |
| PEG 400 Mono and Di-oleate | 9004-96-0 | <1 | 500-015-7 |

4. First Aid Measures

Eye Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Inhalation: Move to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Immediate medical attention is required. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.

Note to Physicians: Treat symptomatically.

5. Fire-fighting Measures

Flammable Properties:

Not considered to be a fire hazard

Explosive Properties:

Not considered to be an explosion hazard

Suitable Extinguishing Media:

Water spray, Carbon Dioxide (CO₂), dry chemical, alcohol foam, Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures

Unsuitable Extinguishing Media:

No information available

Protective Equipment and Precautions for Firefighters:

In the event of a fire, wear full protective clothing and MSHA/NIOSH (approved or equivalent) self-contained breathing apparatus with full facepiece operated in the pressure-demand or other positive pressure mode

6. Accidental Release Measures

Personal Precautions:

Evacuate personnel to safe areas. Ventilate affected area. Use personal protection recommended in Section 8.

Environmental Precautions:

Do not allow into any sewer, on the ground or into any body of water. Prevent further leakage or spillage if safe to do so.

Methods for Containment:

Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for Cleaning Up:

Neutralize with alkaline material (soda ash, lime). Take up with sand or other non-combustible absorbent material and place in containers for later disposal.

Other Information:

Extremely slippery when spilled.

7. Handling and Storage

Advice on Safe Handling:

Avoid contact with skin, eyes or clothing. Use only with adequate ventilation.

Storage Conditions:

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep away from any source of heat or ignition.

Incompatible Materials:

Strong acids and bases; Oxidizing agents

8. Exposure Controls / Personal Protection

| Chemical Name | | ACGIH TLV | | OSHA PEL | | Ontario TWA |
|----------------|--|---|-------|--|--------------------------------|--|
| Propionic acid | | TWA: 10 ppm | | (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ | | TWA: 10 ppm |
| Chemical Name | European Union | China | Japan | Korea | Australia | Taiwan |
| Propionic acid | TWA 10 ppm TWA 31 mg/m ³ STEL 20 ppm STEL 62 mg/m ³ | TWA: 30 mg/m ³ STEL: 60 mg/m ³ | | STEL: 15 ppm STEL: 45 mg/m ³ TWA: 10 ppm TWA: 30 mg/m ³ | 10 ppm 30 mg/m ³ | TWA: 10 ppm TWA: 30 mg/m ³ |

Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Engineering Controls:

Ensure adequate ventilation, especially in confined areas

Personal protective equipment (PPE)

Eye/Face Protection: Tight sealing safety goggles. Face protection shield.
Body Protection: Gloves made of plastic or rubber. Suitable protective clothing. Rubber boots. Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate.

General Hygiene Considerations:
 Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

| | | | |
|------------------------|--------------------------|------------------------|--------------------------|
| Physical State: | Liquid | Odor: | Pungent |
| Appearance: | No information available | Odor Threshold: | No information available |
| Color: | No information available | | |

| Property | Values | Remarks • Method |
|--|--|----------------------------------|
| pH: | 6.0 | |
| "Salt Out" Point (°F): | | No information available |
| Melting Point/Freezing Point: | | |
| Boiling Point/Boiling Range: | | No information available |
| Flash Point: | | No information available |
| Evaporation Rate (BuAc=1): | | No information available |
| Flammability (solid, gas): | | No information available |
| Flammability Limits in Air: | | No information available |
| Upper Flammability Limit: | | Lower Flammability Limit: |
| Vapor Pressure (mm Hg) : | | No information available |
| Vapor density (Air =1) | | No information available |
| Specific Gravity (H₂O=1): | 1.06 | No information available |
| Specific Gravity (2nd value): | | No information available |
| Water Solubility: | | No information available |
| Solubility(ies): | | No information available |
| Partition Coefficient (n-octanol/water) | | No information available |
| Autoignition Temperature: | | |
| Decomposition Temperature: | | No information available |
| Kinematic Viscosity: | | No information available |
| Dynamic Viscosity: | | No information available |
| Oxidizing Properties: | No information available | |
| Explosive Properties: | Not considered to be an explosion hazard | |

9.2. Other information

| | |
|--------------------------|--------------------------|
| Softening Point: | No information available |
| Molecular Weight: | No information available |
| VOC Content(%): | No information available |
| Density: | 1.06 |
| Bulk Density: | No information available |

10. Stability and Reactivity

| | |
|--------------------------------|--|
| Stability: | Stable under normal conditions of use and storage |
| Conditions to Avoid: | Exposure to air or moisture over prolonged periods |
| Incompatible Materials: | Strong acids and bases, Oxidizing agents |

CASE-Thirty Plus

Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors

Possibility of Hazardous Reactions: None under normal processing

11. Toxicological Information

Product Information

Acute Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

| Chemical Name | Oral LD ₅₀ : | Dermal LD ₅₀ : | LC ₅₀ (Lethal Concentration): |
|-------------------------------|-------------------------|---------------------------|--|
| Citric acid | 3 g/kg (Rat) | | |
| Water | 90 mL/kg (Rat) | | |
| Propanoic acid, ammonium salt | 2000 mg/kg (Rat) | 200 mg/kg (Rabbit) | 5.4 mg/L (Rat) 4 h |
| Propionic acid | 2600 mg/kg (Rat) | | |

Chronic Toxicity:

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

Target Organ Effects: Eyes, Respiratory system, Skin

12. Ecological Information

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Harmful to aquatic life with long lasting effects

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|-------------------------------|--|--|---|
| Citric acid | | 1516: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static | |
| Propanoic acid, ammonium salt | | 562: 96 h <i>Leuciscus idus</i> mg/L LC50 static | |
| Propionic acid | 45.8: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 43: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50 | 1: 96 h <i>Pimephales promelas</i> mg/L LC50 static 73 - 99.7: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 51: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static | |

Persistence and Degradability: No information available.

Bioaccumulation: No information available.

Mobility: No information available.

| Chemical Name | Partition Coefficient: |
|----------------|------------------------|
| Citric acid | -1.72 |
| Propionic acid | 0.33 |

13. Disposal Considerations

Waste from Residues/Unused Products: Disposal should be in accordance with applicable regional, national and local laws and regulations

Contaminated Packaging: Do not reuse container.

14. Transport Information

DOT
Description Not DOT Regulated

15. Regulatory Information

International Inventories

All of the components in the product are on the following Inventory lists: Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP),
This product contains a substance not listed on international inventories - it is for research and development use only.

AICS Complies
TSCA Complies
DSL/NDSL Complies
EINECS/ELINCS Complies
ENCS -
IECSC Complies
KECL Complies
PICCS Complies

| Chemical Name | AICS | TSCA | DSL | NDSL | EINECS | ELINCS | ENCS | IECSC | KECL | PICCS |
|-------------------------------|---------|--------|-------------|---------|--------|--------|-------------------------------|---------|----------|---------|
| Citric acid | Listed | Listed | Listed | - | Listed | - | Present | Listed | Present | Present |
| Water | Listed | Listed | Listed | - | Listed | - | - | Listed | KE-35400 | Present |
| PEG 400 Mono and Di-oleate | Present | XU | Present | - | - | - | (7)-88 (7)-319 (7)-1392 | Present | KE-27609 | Present |
| Propanoic acid, ammonium salt | Listed | Listed | NDSL Listed | Present | Listed | - | - | Listed | KE-29353 | Present |
| Propionic acid | Listed | Listed | Listed | - | Listed | - | (2)-602 | Listed | KE-29352 | Present |

Inventory Legend

AICS - Australian Inventory of Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

RESTRICTIONS - REACH TITLE VII No information available

US Federal Regulations

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

CASE-Thirty Plus

| Chemical Name | CERCLA Hazardous Substances and the Reportable Quantities | SARA Extremely Hazardous Substances EPCRA RQ | SARA Extremely Hazardous Substances TPQ |
|----------------|---|--|---|
| Propionic acid | 5000 lb 2270 kg | - | - |

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

| Chemical Name | SARA 313 - Threshold Values % |
|-------------------------------|-------------------------------|
| Propanoic acid, ammonium salt | 1.0 |

SARA 311/312 Hazard Categories

| | |
|-----------------------------------|-----|
| Acute health hazard | Yes |
| Chronic health hazard | Yes |
| Fire hazard | No |
| Sudden release of pressure hazard | No |
| Reactive hazard | No |

U.S. State Right-to-Know Regulations

California Proposition 65:

This product does not contain any Proposition 65 chemicals

16. Other Information

National Fire Protection Association (NFPA) Ratings



| | |
|----------------|-------------------------|
| Prepared By: | HSE Department |
| Issue Date: | 16-May-2012 |
| Revision Date: | 03-Nov-2017 |
| Revision Note: | Reviewed and Re-issued. |

Disclaimer:

PLEASE BE ADVISED THAT IT IS YOUR RESPONSIBILITY TO INFORM YOUR EMPLOYEES OF THE HAZARDS OF THIS SUBSTANCE, TO ADVISE THEM OF WHAT THESE PROPERTIES MEAN AND BE SURE THEY UNDERSTAND EXPOSURE INFORMATION. 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 PRESENTED HEREIN, WHILE NOT GUARANTEED, WAS PREPARED BY COMPETENT TECHNICAL PERSONNEL AND IS TRUE AND ACCURATE TO THE BEST OF OUR KNOWLEDGE. NO WARRANTY OR GUARANTY, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, STABILITY, OR OTHERWISE. THIS INFORMATION IS NOT INTENDED TO BE ALL-INCLUSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, AND STORAGE. OTHER FACTORS MAY REQUIRE ADDITIONAL SAFETY OR PERFORMANCE CONSIDERATIONS. WHILE OUR TECHNICAL PERSONNEL WILL BE HAPPY TO RESPOND TO QUESTIONS REGARDING SAFE HANDLING AND USE PROCEDURES, THE HANDLING AND USE REMAINS THE RESPONSIBILITY OF THE CONSUMER. NO SUGGESTIONS ARE INTENDED AS, AND SHOULD NOT BE CONSTRUCTED AS, A RECOMMENDATION TO INFRINGE ON ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, OR LOCAL LAWS.

End of Safety Data Sheet

| | |
|-----------------------|---------|
| Net Weight LB | 1 LB |
| Net Weight KG | 0.45 KG |
| Net Weight Gal. | 0.11 GA |
| Net Weight L | 0.43 LT |
| Secondary Description | Bulk |

Ingredients

This Product Freezes at (°F): -11

IATA

TDG

MEX

| | |
|-----------|---|
| TB List 2 | W |
|-----------|---|