

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: GibGro® 4LS
EPA Reg. No.: 55146-62
Synonyms: Gibberellin A₃; GA₃
Product Type: Plant Growth Regulator

Company Name: Nufarm Americas Inc. AGT Division
 150 Harvester Drive, Suite 200
 Burr Ridge, IL 60527

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

Date of Issue: November 11, 2011 **Supersedes:** March 12, 2009
Sections Revised: 2, 11, 13

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Colorless to light yellow colored liquid with typical alcohol odor.

Warning Statements: Warning. Keep out of reach of children. Causes substantial but temporary eye injury. Harmful if swallowed, inhaled or absorbed through skin. Do not get in eyes or on clothing. Avoid breathing vapor or spray mist, and avoid contact with skin. FLAMMABLE; flash point 55° F (13° C) TCC.

Potential Health Effects:

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Moderately irritating based on toxicity studies. Vapors and mist may cause irritation.

Skin Contact: Slightly irritating based on toxicity studies. Overexposure by skin absorption to isopropanol, a component in this product, may cause itching, redness, rash, drying and cracking.

Ingestion: Harmful if swallowed. Overexposure to a component in this product, isopropanol, may cause flushing, headache, dizziness, mental depression, nausea, vomiting, irritation of gastrointestinal tract, drowsiness, anesthesia and coma.

Inhalation: Low inhalation toxicity. Overexposure to a component in this product, isopropanol, may cause symptoms similar to those for ingestion.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

Gibberellic Acid is practically non-toxic to birds, fish and freshwater invertebrates and not likely to cause adverse effects.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
Gibberellic Acid	77-06-5	4.0
Other Ingredients		96.0
Isopropanol	67-63-0	

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: 55° F (13° C) TCC

Autoignition Temperature: 750°F (399°C) (Isopropanol)

Flammability Limits: 2 – 12.7% (Isopropanol)

Extinguishing Media: Use alcohol resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Flammable liquid, keep away from sparks and open flames. Heavier than air vapors can travel along surfaces to distant ignition sources and flash back.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 Flammability: 3 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Do not get in eyes or on clothing. Avoid breathing vapor or spray mist, and avoid contact with skin. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage:

FLAMMABLE! Keep away from heat and open flame. Keep containers tightly closed when not in use. Containers should be opened in well-ventilated areas. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear face shield, goggles or safety glasses with front, brow and temple protection. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks, shoes and chemical-resistant gloves as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
Gibberellic Acid	NE	NE	NE	NE	
Isopropanol	400	NE	200	400	ppm

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Colorless to light yellow colored liquid with typical alcohol odor.

Boiling Point:	179 -181°F (82-83°C)	Solubility in Water:	Miscible
Density:	6.7 pounds/gallon	Specific Gravity:	0.80
Evaporation Rate:	Not determined	Vapor Density:	Not determined
Freezing Point:	Not determined	Vapor Pressure:	13 mmHg @ 20°C
pH:	10 - 11	Viscosity:	Not determined

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.
Conditions to Avoid: Excessive heat. Do not store near heat, flame or sparks.
Incompatible Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon.
Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Data from laboratory studies on this product are summarized below:

- Oral:** Rat LD₅₀: 5,050 mg/kg
- Dermal:** Rabbit LD₅₀: >2,000 mg/kg
- Inhalation:** Rat 4-hr LC₅₀: >5.65 mg/L
- Eye Irritation:** Rabbit: Moderately irritating
- Skin Irritation:** Rabbit: Slightly irritating
- Skin Sensitization:** Not a contact sensitizer in guinea pigs following repeated skin exposure.

Toxicity of Gibberellic Acid:

Subchronic (Target Organ) Effects: Subchronic exposures (oral) at relatively high levels (exceeding 10,000 ppm), have demonstrated systemic toxicity such as increased liver and kidney weights in rats. Gibberellic acid is a growth hormone that has been reported to have estrogenic and androgenic activity in animals.

Developmental Toxicity: In developmental studies in rats and rabbits, no maternal or fetal adverse effects to the fetus were noted following large dosages (1000 and 300 mg/kg/day, respectively) of gibberellic acid.

- Reproductive Toxicity:** No data available
- Carcinogenicity / Chronic Health Effects:** No data available.
- Genotoxicity:** No data available.

Toxicity of Isopropanol:

Isopropanol is a central nervous system depressant. Overexposure to isopropanol may also affect the liver, kidneys and skin. The International Agency for Research on Cancer (IARC) lists exposure to isopropanol as a Group 3 carcinogen (not classifiable as to its carcinogenicity to humans). Repeated exposure at high concentrations (2.5% or greater in drinking water) produced a variety of reproductive, fertility, and developmental effects in rats.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on Gibberellic Acid:			
96-hour LC ₅₀ Rainbow Trout:	>150 ppm	Bobwhite Quail Oral LD ₅₀ :	>2,250 mg/kg
48-hour EC ₅₀ Daphnia:	>143 ppm	Bobwhite Quail Dietary LC ₅₀ :	>4,640 ppm
48-hour LD ₅₀ Bee:	>25.0 µg/bee		

Data on Isopropanol:

96-hour LC₅₀ Fathead Minnow: 6,550 ppm48-hour EC₅₀ Daphnia:

2,280 ppm

Environmental Fate:

Gibberellic acid is biodegradable. It will not accumulate in the soil or water. Isopropanol is readily biodegradable and is not expected to persist in an aquatic environment. It is not likely to bioconcentrate.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT

UN 1219, Isopropanol, 3, II

IMDG

UN 1219, Isopropanol, 3, II

IATA

UN 1219, Isopropanol, 3, II

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:**Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):**

Immediate and Fire

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not listed

16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. AGT Division makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. AGT Division be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

GibGro is a registered trademark of Nufarm Americas Inc.