CONTACT BioSolutions

FireHawk™ Bioherbicide Super Concentrate

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name	**Contact BioSolutions USA, Inc.**
Address	16 N Marengo Ave, Suite 516 Pasadena, CA 91101, USA
Telephone	+1 712 973 8407 (Mon – Fri 8 a.m. – 5 p.m.)
Emergency Phone	**CHEMTREC** 1-800-424-9300 (24 hours per day/7 days a week)
Email	info@firehawkbioherbicide.com
Web Site	www.firehawkbioherbicide.com
Synonym(s)	Super Concentrate
U.S EPA Registration No.	93740-7
Product Use	Herbicide

This Safety Data Sheet describes the properties of the concentrated product based on the best available information. The physical properties and health assessments do not apply to the properties of the product when diluted for application. The product is practically non-hazardous when used at the recommended dilution rate.

2. HAZARDS IDENTIFICATION

GLOBALLY HARMONISED SYSTEM (GHS)

Hazard Classification	Skin Corrosion/Irritation, Category III Serious eye damage, Category III
Signal Word	WARNING
Pictograms	
Hazard Statements	Causes moderate eye irritation. Causes skin irritation.

Precautionary Statements

Prevention : Wear protective gloves. Wear eye or face protection. Wash hands thoroughly after handling.

Response : 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 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.

Storage : This product should be stored in its original container in a cool, dry locked place out of reach of children and pets.

Disposal : To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments).

Hazards not otherwise classified : None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Names:	**CAS No.**	**Percentage by Weight**
Nonanoic acid	112-05-0	85.26%
Common Name of Active Ingredient:		
Pelargonic acid	112-05-0	85.26%

Other Ingredients:
Inert Ingredients 14.74%
*Inert ingredient identity is confidential business information

4. FIRST AID MEASURES

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

If on Skin or Clothing 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 Swallowed Immediately call a poison control center or doctor. Do **NOT** induce vomiting unless told to do so by a poison control center or doctor. Have person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-424-9300 for emergency medical treatment information.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media	Use foam, dry chemical, Carbon dioxide, water spray or fog for extinction. Do NOT use water jets.
Specific hazards arising from the chemical	Fire may produce toxic gases including organic vapours and oxides of carbon. Containers may rupture or explode when strongly heated. Decomposition products may include the following materials: Carbon dioxide Carbon monoxide
Special protective equipment and precautions for fire fighters	Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Firefighters should wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combatting fire. Use water fog to cool intact containers and nearby storage areas. Prevent, by any means available, spillage from entering drains or water courses.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Clean up spills immediately to prevent further accidents. Wear personal protective equipment (PPE) as specified in Section 8. Avoid breathing vapors and contact with skin and eyes. Shut off leaks, if safe to do so. Isolate hazard area and deny entry to unnecessary or unprotected personnel.
Environmental precautions	Prevent spills from spreading and entering waterways by using sand, earth or other non-combustible material. Ventilate contaminated area thoroughly.
Methods and materials for containment and cleaning up	Contain spillage, then cover spill with absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. In the event of a large spill, contain spilled material with sand, earth or other absorbent material. Prevent run-off into drains or waterways. Transfer spilled material to suitable containers for re-use or disposal. Transfer contaminated sand or earth into suitable containers for disposal. Suitable containers include plastic or metal drums. Clearly label all containers. Wash contaminated area with water.

7. STORAGE AND HANDLING

Precautions for safe handling	Before use carefully read the product label. Use safe work practices to avoid contact with eyes, skin and clothing. Wear PPE as specified in Section 8. Use product only in well-ventilated areas. Observe good personal hygiene, including washing hands before eating, drinking or smoking. Prohibit eating, drinking and smoking in contaminated areas.
Conditions for safe storage, including any incompatibilities	Store in a cool, dry, well ventilated area, away from incompatible materials and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Keep in the original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Standards	No value assigned for this specific material by American Industrial Hygiene Association (AIHA).
Biological Limits	None allocated.
Engineering Controls	Use with good general ventilation. If mists or aerosols are generated, a system of local and/or general exhaust is recommended to keep employee exposure as low as possible. Local exhaust ventilation preferable because it can control emissions at source preventing dispersion into the general work area.
Individual protective measures and personal protective equipment (PPE)	**Eye Protection:** Splash-proof chemical goggles or face shield. **Glove Type:** Waterproof or chemical-resistant gloves such as barrier laminate, nitrile, rubber or neoprene rubber gloves. **Clothing:** Long sleeved shirt, long pants and closed shoes plus socks. Coverall worn over short-sleeved shirt and short pants. Chemical resistant footwear plus socks. **Respirator**: Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If vapor is generated and ventilation is inadequate, use NIOSH certified respirator that will protect against mist.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear to yellowish liquid	**Solubility (Water)**	Emulsifies
Odour	Lemon odor	**Specific Gravity**	7.644 lbs/gal @ (68°F)
Vapour Pressure	Not Applicable	**% Volatiles**	Not determined
Vapour Density	Not Applicable	**Flammability**	Not combustible
Boiling Point	Not Applicable	**Flash Point**	Not determined
Melting Point	Not Applicable	**pH (neat)**	4.0 - 4.5
Evaporation Rate	Not Applicable		

10. STABILITY AND REACTIVITY

Reactivity **Chemical Stability**	Stable under recommended conditions of storage and use.
Conditions to Avoid	Keep away from heat.
Incompatible materials and possible hazardous reactions	Keep away from strong oxidizing agents, strong alkalis and strong acids.
Hazardous decomposition products	Will evolve toxic gases including organic vapors and carbon oxides when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Eye	Direct contact with the eye causes moderate irritation, redness and lacrimation.
Inhalation	No known significant effects or critical hazards.
Skin	Moderately irritating and is a skin sensitizer.
Ingestion	No known significant effects or critical hazards,
Chronic	May cause an allergic skin reaction.
Toxicity Data	Oral LD50 (rat): >5000 mg/kg (estimated)

12. ECOLOGICAL INFORMATION

Ecotoxicity of ingredients

Ingredients	Result	Species	Exposure
Nonanoic Acid	Acute EC50 96 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 91 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	ErC50 78.7 mg/l	Algae - Anabaena flos aquae	
	EC50 >100 mg/l	Aquatic plants - Lemna gibba	
	EC50 94.4 mg/l	Daphnia - Daphnia Magna	
	LC50 69.6 mg/l	Fish - Cyprinus carpio (Common carp)	
	Chronic NOEC 32 mg/l	Crustaceans	21 days
	Chronic NOEC 32 mg/l	Fish	28 days

Conclusion/Summary : Not available

Persistence and degradability

Conclusion/Summary : Not available

Bioaccumulative potential

Ingredients	$LogP_{OW}$	BCF	Potential
Nonanoic Acid	2.4 (pH 7)	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}): Not available

Mobility: Not available

Other adverse effects：No known significant effects or critical hazards

13. DISPOSAL CONSIDERATIONS

Safe handling and disposal methods	Recover or recycle if possible. Refer to local waste management authority for other approved methods. Empty containers should be decontaminated by rinsing with water prior to disposal or recycling. Product must be contained and not disposed of in sewerage systems, drains or waterways.
Disposal of contaminated packaging	Empty packaging should be washed and disposed of in accordance with local, state, and federal regulations or recycled/reconditioned at an approved facility.
Environmental regulations	Dispose of in accordance with relevant local, state and federal legislation.

14. TRANSPORT INFORMATION

LAND TRANSPORT

Classification	Not regulated by the Department of Transport (DOT).

SEA TRANSPORT

Classification	Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.
Marine Pollutant	No.

AIR TRANSPORT

Classification	Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA 12(b):	Not applicable
SARA 313:	Not applicable
SARA 311/312	Hazard Categories: See section 2
Clean Water Act:	Not applicable
Clean Air Act:	Not applicable
OSHA Occupational Safety and Health Administration:	Not applicable
California Proposition 65:	This product does not contain any Proposition 65 chemicals
U.S. Department of Transportation:	Reportable Quantity (RQ): N DOT Marine Pollutant: N DOT Severe Marine Pollutant: N
U.S. Department of Homeland Security:	This product does not contain any DHS chemicals.

16. OTHER INFORMATION

Additional Information	The effects from exposure to this product depend on several factors including frequency and duration of use, the amount used, control measures adopted, personal protective equipment used and method of use. It is impractical to prepare a data sheet that encompasses all possible situations; therefore, it is anticipated that users will assess the risks and apply control measures as appropriate.
Report Status	This document is based on the best available information on the date of issue and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for this product. While all due care has been taken to include accurate and up-to-date information, no warranty as to accuracy or completeness is provided. As far as lawfully possible, Contact Organics accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of reliance on the information contained in this Safety Data Sheet.
Prepared By	Contact Biosolutions USA, Inc.
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End of Report