



1,4Zap®
SAFETY DATA SHEET

Complies with
OSHA Hazard Communication Standard 29 CFR 1910.1200

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Label Name:	1,4Zap®
Substance:	1-Octanol
CAS No.:	111-87-5
EC No.:	203-917-6
1.2 Use of the substance:	Potato dormancy enhancer
1.3 Details of the supplier of the Safety Data Sheet	
Company Identification:	1,4GROUP, Inc. P.O. Box 860 Meridian, ID 83680-0860, USA Tel: 208-887-9766
1.4 Emergency telephone:	USA: 1-800-633-8253 (PERS)

2. HAZARDS IDENTIFICATION

2.1.1 Classification according to GHS guidance and 29 CFR 1910.1200 Appendix A and B
Eye Irritation 2A
Skin Irritation 2

2.2 Label elements

2.2.1 Labelling according to US 29 CFR 1910.1200 and GHS

Hazard Pictograms:



Signal word:

Warning

Hazard statements:

Causes serious eye irritation
Cause skin irritation

Precautionary statements:

Prevention:
Wash exposed areas thoroughly after handling
Wear protective gloves, and eye and face protection.

Response:

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical attention.

If on skin: Wash with plenty of water.

If skin irritation occurs: Get medical attention.

Take off contaminated clothing and wash it before reuse.

Specific treatment (see First Aid Measures).

2.3 Unclassified hazards: None known

2.4 Percentage of ingredients with unknown toxicity: 0%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS number	Weight %
1-Octanol	111-87-5	98.8 – 99.7%

Synonyms: Capryl alcohol, n-octanol, n-octyl alcohol, oOctan-1-ol

The specific percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: Remove to fresh air. If breathing is irregular or stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Skin contact: Wash off immediately with plenty of water while removing all contaminated clothing and shoes. Wash skin with plenty of soap and water. Seek medical advice. Wash contaminated clothing before re-use.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: If swallowed, call a poison control center or physician for treatment advice. Do not induce vomiting or give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed: Causes serious eye irritation. Causes skin irritation.

- 4.3 Immediate medical attention required: Symptomatic treatment is advised. There are no medical conditions that are known to be aggravated by exposure to this product. No immediate medical attention required if exposed.

5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.
- 5.2 Special hazards arising from substance: None
- 5.3 Precautions for firefighters: Wear self-contained breathing apparatus and protective suit. Keep containers and surrounding area cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions: Immediately evaluate the area and provide maximum ventilation. Remove all ignition sources. Only personnel with appropriate respiratory and skin protection should be permitted in the area.
- 6.2 Environmental precautions: Be aware that vapors can spread along the ground and collect in low or confined areas. Do not let product enter drains. Efforts should be made to avoid discharge into the environment.
- 6.3 For containment and clean up: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations. Do not flush into surface water or sanitary sewer system.
- 6.4 Reference to other sections: For disposal, see section 13.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapor. Use only with adequate ventilation. Ensure all equipment is electrically grounded before beginning transfer operations.
- 7.2 Conditions for safe storage: Store in cool and well-ventilated area. Store in a tightly closed container.

7.3 Specific end use: Potato dormancy enhancer

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits:	None established.
8.1 Engineering controls:	Ensure adequate ventilation, especially in confined areas; Employ good industrial hygiene practices;
8.2 Personal Protection:	
Respiratory:	Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection under excessive exposure conditions resulting in high levels of vapor or mist..
Skin:	Wear suitable protective clothing, gloves and eye/face protection.
Eye protection:	Wear as appropriate: Goggles, Face-shield

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Liquid
Color:	Colorless
Odor:	Sweet pungent
Odor threshold:	Not available
Boiling point range:	194 - 196°C, 381 - 385°F
Melting point range:	-17 °C, - 1.4°F;
Vapor pressure:	0.04 mm Hg @ 21°C, 70°F
Vapor density:	4.5
Density:	0.827 g/cm ³ @ 25°C, 68°F
Flash point:	81°C, 178°F; closed cup
Flammability	Not available
Auto-ignition temp.:	253°C, 487°F
Specific gravity:	Not available
Solubility (water):	Insoluble
pH-value:	Not available
Partition coefficient (n-octanol/water):	Log Pow: 2.54
Evaporation rate:	Not available

Viscosity:	Not available
Decomposition temperature	Not available

10. STABILITY AND REACTIVITY

10.1 Reactivity:	Stable at normal ambient temperatures and pressures.
10.2 Chemical stability:	No decomposition if stored and applied as directed.
10.3 Possibility of hazardous reactions:	No data available
10.4 Conditions to avoid:	Keep away from heat and sources of ignition.
10.5 Hazardous decomposition products:	Combustion products including carbon dioxide, carbon monoxide, and possibly others
10.6 Incompatible materials:	Strong oxidizing agents,, inorganic acids, and certain halogenated substances.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - oral:	LD ₅₀ rat: 4135 mg/kg
Acute toxicity - dermal:	LD ₅₀ rabbit: >5000 mg/kg
Acute toxicity - inhalation:	LC ₅₀ : > 5.6 mg/L
Skin corrosion/irritation:	Irritating to skin (rabbit) .
Eye damage/irritation:	Serious irritant to eyes (rabbit)..
Respiratory or skin sensitization:	Not available
Germ cell mutagenicity:	
Genotoxicity in vitro:	Not mutagenic
Genotoxicity in vivo:	Not mutagenic
Carcinogenicity:	Contains no ingredient listed as a carcinogen
Reproductive toxicity:	Not a reproductive toxin
Teratogenicity:	Not teratogenic
STOT- single exposure:	Serious eye irritation
STOT – repeated exposure	None

12. ECOLOGICAL INFORMATION

Aquatic toxicity:	Harmful to aquatic life with long lasting effects.
Toxicity to fish:	LC ₅₀ (Pimephales promelas (fathead minnow)) 96 hours: 13.5 mg/L

LC ₅₀ Oncorhynchus mykiss (rainbow trout) 96 hours:	18.0 mg/L
Toxicity to aquatic invertebrates:	EC ₅₀ Daphnia magna (Water flea) 24 hours: 47 mg/L; .
Toxicity to algae:	Er ₅₀ Desmodesmus subspicatus (green algae) 48 hours: 14 mg/L
Chronic toxicity to aquatic invertebrates:	NOEC (Daphnia magna (Water flea)) 21 d: 1 mg/L
Biodegradation:	Readily biodegradable. Bioaccumulation: Does not bioaccumulate
Mobility in soil	Not available
Other adverse effects	Not available

13. DISPOSAL CONSIDERATIONS

13.1 Product:	Any unused product or empty containers may be disposed of as non-hazardous waste in accordance with state and federal requirements. This combustible substance may be burned in a chemical incinerator equipped with an afterburner and scrubber. .
13.2 Container:	Dispose of only in accordance with local, state, and federal regulations. Empty containers may retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

14. TRANSPORT INFORMATION

DOT:	NA 1993, Combustible liquid, n.o.s. (Octanol), III This product is regulated as a hazardous material according to the Department of Transportation only in bulk quantities (greater than 119 gallons per package).
IATA:	Not regulated.
IMDG:	Not regulated.
Transport in bulk in accordance with Annex II of MARPOL 73/78 and the IBC Code	
Remarks:	Not available

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA hazards (HCS 1994):	Combustible liquid, Eye irritation, Skin irritation.
TSCA Inventory Listing Components:	1-Octanol
CAS-No.	111-87-5
SARA 302 Status Components:	SARA 302: This chemical is not subject to the reporting requirements of SARA Title III, Section 302.

State Regulations:

California prop. 65 components:	None
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16. OTHER INFORMATION

16.1 Disclaimer

The information contained on the Safety Data Sheet has been compiled from data considered accurate. These data are believed to be reliable, however, it must be pointed out that values for certain properties are known to vary from source to source. The One Four Group disclaims any warranty expressed or implied as well as any liability for any injury or loss arising from the use of this information or the materials described. These data are not to be construed as absolutely complete since additional data may be desirable when particular conditions or circumstances exist. It is the responsibility of the user to determine the best precautions necessary for the safe handling and use of this product for your application. These data relate only to the specific material designated and not to be used in combination with any other material. Many federal and state regulations pertain directly or indirectly to the product's end use and disposal of containers and unused material. It is the purchaser's responsibility to familiarize themselves with all applicable regulations. Users assume all risks of their use, handling and disposal of the product, or from the publication, or use of, or reliance upon information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other manner.

16.2 Date of preparation: June 17, 2015