

Material Safety Data Sheet

Enhance Spray Adjuvant

Date issued: 04/04/2012 (m/d/y)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Enhance Spray Adjuvant

Norac Concepts Inc.
P.O. Box 31097, Guelph, ON N1H 8K1
519-821-3633

Emergency telephone number: All hours, 613-787-5620, **ONLY** for health and environmental information.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients	% (w/w)	ACGIH TLV	CAS No.
Non hazardous ingredients	100	No Data	Mixture

Synonyms: None known.

Chemical name: Mixture of Surfactants, Fatty Acids and Coupling Agents

Product use: Agricultural Adjuvant

Registration number: 29270 Pest Control Products Act.

3. HAZARDS IDENTIFICATION

Summary: Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.

Physical Properties: Clear yellow liquid with a fatty acid odour;

Route of entry: Eyes, skin and inhalation.

Effects of acute exposure: May cause irritation to the eyes, skin and respiratory tract.

Effects of chronic exposure: None known

4. FIRST AID MEASURES

Inhalation: Move person to fresh air. Call 911 **IMMEDIATELY** for medical assistance. Give artificial respiration **ONLY** if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse.

Skin contact: Remove contaminated clothing immediately. Flush skin with running water for a minimum of 20 minutes. If irritation persists obtain medical attention.

Eye contact: Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists obtain medical attention.

Ingestion: Call 911 **IMMEDIATELY** for medical assistance. If person is alert and not convulsing, rinse mouth out and give 1 cup of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in vomit, rinse mouth and administer more water.

Notes to Physician: There is on specific antidote, treat symptomatically

5. FIRE AND EXPLOSION HAZARD DATA

Flash point: > 93°C (PM closed cup).

Autoignition temperature: No data.

Flammable limits (lower): Not applicable.

Flammable limits (upper): Not applicable.

Extinguishing media: For large fires, apply aqueous film forming foam or water in the form of a fog. For small fires, use carbon dioxide or dry chemical. Water stream may spread flames.

Fire-fighting procedures: Wear self-contained breathing apparatus and impervious clothing. Minimize the amount of water used and contain the run-off from entering water supplies or the environment by dyking.

Other fire and explosion hazards: None known

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear personal protective equipment as described in Section 8.

Spills, leaks or releases: For release to land, stop any further release and spread of contamination and absorb spilled material with a suitable absorbent. Wash hard surfaces with detergent and water, then absorb with suitable absorbent. For release to water, stop any further release and utilize damming and/or water diversion to minimize the spread of contamination. Collect the spilled material, any contaminated soil, water and absorbent, then place in a waste container for proper disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.

Deactivating chemicals: None known.

7. HANDLING AND STORAGE INFORMATION

Handling procedures: Use only with adequate ventilation and avoid contact with eyes, skin and clothing. Wear appropriate personal protective equipment. Wash thoroughly after use. If clothing becomes contaminated, wash thoroughly before re-use.

Storage requirements: Store in a cool, dry and well-ventilated area. Keep away from heat, sparks and flame. Keep containers closed. Keep out of reach of children and pets.

Storage temperature: Store between 5°C and 40°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection: Chemical safety goggles when there is potential for eye contact.

Skin protection: Chemical-resistant gloves and protective clothing should be impervious under conditions of use.

Respiratory protection: If misting conditions exist, use NIOSH/MSHA-approved respirator for organic vapours.

Other protective equipment: None required.

Engineering controls: Provide local exhaust or ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear yellow liquid.

Odour: Fatty acid odour.

Specific gravity: 0.97 at 20°C.

Boiling point: Not determined.

Melting point: Not determined.

Solubility (water): Dispersible.

Solubility (other): No data.

pH: 6 to 7.

% volatile: 5%.

Evaporation rate (ether=1): Not determined.

Vapour pressure (mm Hg at 20°C): Not determined.

Vapour density (air=1): No determined.

10. STABILITY AND REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Hazardous polymerization: Will not occur.

Conditions to avoid: Prolong storage at temperatures above 40°C.

Incompatibility with other substances: Strong oxidizing agents, such as Hydrogen Peroxide, Bromine and Chromic Acid.

Hazardous decomposition products: Thermal decomposition may produce carbon oxides and possibly irritating gases.

11. TOXICOLOGICAL INFORMATION

Summary: May cause irritation to the eyes, skin and respiratory system.

Inhalation: Mists and vapours may cause irritation to the respiratory tract.

Skin contact: May cause mild to moderate skin irritation.

Eye contact: May cause mild eye irritation.

Ingestion: May cause gastrointestinal tract irritation and irritation to the throat.

Chronic effects: None known.

Carcinogenicity: The ingredients in this product are not classified as carcinogenic by the ACGIH, IARC, OSHA and the NTP.

12. ECOLOGICAL INFORMATION

Ecotoxicological information: Not determined.

Environmental effects: Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Persistence and degradation: Not known.

13. DISPOSAL CONSIDERATIONS

Container Disposal: Non-refillable container. Do not reuse. Triple rinse container and place rinse water into the spray tank. If available, offer for recycling or puncture and dispose of in a sanitary landfill, or by other procedures approved by provincial and local authorities.

Waste Disposal: Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage or to sewer systems.

14. TRANSPORT INFORMATION

TDG classification: Not regulated.

Transportation emergency telephone number: 613-787-5620.

15. REGULATORY INFORMATION

WHMIS classification: This product is registered under the *Pest Control Product Act* and is exempt from the requirements of WHMIS.

16. OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Norac Concepts Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This material safety data sheet is valid for three years.

Prepared by: Norac Concepts Inc.

2014-0734
2014-03-20

AGRICULTURAL

ENHANCE®

Non-ionic spray adjuvant derived from soybean oil

For use with Pest Control Products as labeled.

GUARANTEE: triglyceride ethoxylate 10 POE80%

Contains the allergen soy

Emulsifiable Concentrate

READ THE LABEL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

REGISTRATION NO. 29270 PEST CONTROL PRODUCTS ACT

CAUTION-SKIN IRRITANT

NET CONTENTS: 1, 4, 5, 10, 20, 110, 1000 LITRES, Bulk

Norac Concepts Inc.
P.O. Box 31097
Guelph, ON
N1H 8K1
(519) 821-3633

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

FIRST AID

IF SWALLOWED:

Call a poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre 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 centre or doctor for further treatment advice.

IF IN EYES:

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

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

HANDLING

During mixing, loading, application, spill clean up and sprayer clean-up, maintenance or repair, wear a long-sleeved shirt, long pants and chemical resistant gloves. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Avoid breathing spray mist. Store away from food or feed. Do not contaminate water supplies, wetland areas, or any body of water by direct application, spray drift or when cleaning and rinsing spray equipment or containers.

RE-ENTRY

Workers should not enter treated fields within the period of re-entry time stated on the label of the pesticide applied in conjunction with ENHANCE.

STORAGE

Store in a cool, dry and well-ventilated area. Keep in original container tightly closed in a safe place when not in use. Keep away from food, drink and animal feedstuffs.

SPILL CLEANUP

Soak up spill with absorbent material (kitty litter, granular clay, soil) and collect into a waste container. Wash spill site with water after material pick-up and dispose with waste. See DISPOSAL statement below.

DECONTAMINATION AND DISPOSAL

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

CONTAINER DISPOSAL

FOR DISPOSAL OF PLASTIC JUGS:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

FOR REFILLABLE CONTAINERS:

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not use this container for any other purpose. If the container is not being refilled, refer to the section FOR DISPOSAL OF PLASTIC JUGS.

EMERGENCY TELEPHONE NUMBER: All hours, (613) 787-5620 ONLY for health and environmental information.

DIRECTIONS FOR USE

The rate of ENHANCE is indicated for the control product spray mixtures or other uses listed below. Control product spray mixtures, their preparation and uses are to be derived from the individual labels for the control products.

Control Product Spray Mixture	Amount of ENHANCE per litre of spray mixture	Remarks
ELEVATE 50WDG	200 mL/1000 L	For use on grapes
ACTIVOL	250mL/1000L	For use on sweet and sour cherries.
FALGRO	250mL/1000L	For use on sour cherries.
GRAMOXONE	250mL/1000L	Use only if the spray mixture is weaker than 2.5L of GRAMOXONE in 1000L of water.
AMBUSH 500EC, CYMBUSH 250EC, POUNCE 384 INSECTICIDE	300mL/1000L	For use on cole crops.
FOLICUR 432 F FOLIAR FUNGICIDE	1.25L/1000L	Consult FOLICUR 432 product label for use.
PROLINE 480 FOLIAR FUNGICIDE	1.25L/1000L	PROLINE 480 SC should be thoroughly dispensed prior to the addition of ENHANCE.
REGLONE DESSICANT, REWARD	1 L/1000L	Do not use ENHANCE with REGLONE for corn spurry control. Do not use ENHANCE with RELGONE for potato vine killing except as recommended for use in the prairie provinces with the 1.5L/ha rate of REGLONE. DO NOT use ENHANCE for aquatic applications of REWARD.
PINNACLE TOSS-N-GO HERBICIDE, PINNACLE SG HERBICIDE REFLEX HERBICIDE, TELAR HERBICIDE	1 L/1000L	Add ENHANCE as the last ingredient. FLAT-OUT antifoam agent may be required. Consult each product label for use.
ACCENT, ALLY, REFINE EXTRA 75DF HERBICIDE, REFINE EXTRA 75 TOSS-N-GO HERBICIDE, ELIM EP HERBICIDE 25% DRY FLOWABLE, ELIM EP 25 DF HERBICIDE, MUSTER, PRISM, PEAK 75WG HERBICIDE, CLASSIC, RELIANCE™ STS™ TOSS-N-GO HERBICIDE, ESCORT, COMPAS 480EC EMULSIFIABLE SELECTIVE WEED KILLER, BEACON SUMMIT WG, CURTAIL™, LONTREL 360, PARDNER, ULTIM 75 DF HERBICIDE, NUFARM KORIL 235 LIQUID HERBICIDE, CLEARVIEW HERBICIDE, PEAK 75WG HERBICIDE, PEAK PLUS.	2L/1000L	Add ENHANCE as the last ingredient. FLAT-OUT antifoam agent may be required. Consult each product label for use.
EVEREST 70 WATER DISPERSABLE GRANULAR HERBICIDE.	2.5 L/1000L	For Use On Spring Wheat and Durum Wheat.
EVEREST SOLUPAK 70 DF	2.5 L/1000L	For Use On Spring Wheat and Durum Wheat.
PURSUIT 240, PURSUIT HERBICIDE FOR SOYBEANS (AGRICULTURAL), PURSUIT HERBICIDE PURSUIT 70 DG HERBICIDE, ODYSSEY, FIELDSTAR WDG HERBICIDE, FIELDSTAR WDG WSP HERBICIDE, DISTINCT HERBICIDE, DISTINCT WDG HERBICIDE, REFLEX + PURSUIT, UPBEET, UNITY 280EC, UNITY 75WG, AIM EC HERBICIDE, STRIKER, PATRIOT, VIPER, ULTIMAX, ASSERT SG, MERIDIAN, DUPONT MAX CORN HERBICIDE, SIMPLICITY HERBICIDE, OVERDRIVE HERBICIDE.	2.5 L/1000L	Add ENHANCE as the last ingredient. Consult each product label for use information.
TOUCHDOWN 480, TOUCHDOWN 600, TOUCHDOWN iQ, ROUNDUP, VANTAGE Plus, VANTAGE HERBICIDE SOLUTION,	350mL/50 to 100L 500mL/100L	Quackgrass, Minimum or Zero tillage, seeding and summerfallow uses. Quackgrass - for water volumes of 150 to 300L/ha.

<p>ROUNDUP TRANSORB MAX LIQUID, GLYFOS BIO 450 HERBICIDE, GLYFOS BIO HERBICIDE, GLYFOS SOLUBLE CONCENTRATE II, GLYFOS AU SOLUBLE CONCENTRATE HERBICIDE, GLYFOS SOLUBLE CONCENTRATE HERBICIDE, RENEGADE HC LIQUID HERBICIDE, CREDIT PLUS LIQUID HERBICIDE, CREDIT 45 HERBICIDE, NUFARM CREDIT LIQUID HERBICIDE, NUFARM CREDIT 360 LIQUID HERBICIDE, MAVERICK II HERBICIDE, MAVERICK III HERBICIDE, MANAGE 780, IPCO FACTOR 540 LIQUID HERBICIDE, R/T 540 LIQUID HERBICIDE, TOUCHDOWN TOTAL, ROUNDUP WEATHERMAX WITH TRANSORB 2 TECHNOLOGY LIQUID HERBICIDE, ROUNDUP TRANSORB HC LIQUID HERBICIDE, ROUNDUP ULTRA2 LIQUID HERBICIDE, LAREDO, WRANGLER, ROUNDUP DRY, ROUNDUP TRANSORB, GLYFOS, VICTOR.</p>		
<p>AVENGE 640</p>	<p>0.12 – 4.8L/20 to 800L</p>	<p>Rates dependent on wild oat density and water volume. Consult product label for details.</p>

NOTE: Do not exceed the recommended rate of ENHANCE, particularly with products containing their own wetting agent. Too much wetter can lead to loss of spray due to excessive run-off. Consult each product label for complete use instructions. As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

® ENHANCE IS A REGISTERED TRADEMARK OF NORAC CONCEPTS INC. All products listed are trademarks or registered trademarks of their respective companies.