



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Registration Division (7505P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

EPA Reg. Number:

89168-60

Date of Issuance:

02/14/2017

NOTICE OF PESTICIDE:

Registration  
 Reregistration

(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

Liberty Sulfent/R-met

Name and Address of Registrant (include ZIP Code):

Ms. Mary Beth Endres  
 Liberty Crop Protection, LLC  
 4850 Hahns Peak Drive, Suite 200  
 Loveland, CO 80538

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Kathryn Montague, Product Manager 23  
 Herbicide Branch  
 Registration Division (7505P)  
 Office of Pesticide Programs

Date:

02/14/2017

2. You are required to comply with the data requirements described in the DCI identified below:
  - a. Metolachlor GDCI-108801-1506

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.
4. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 89168-60.”
5. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company’s website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 06/23/2016

If you have any questions, please contact Karen Samek by phone at (703) 347-8825, or via email at [samek.karen@epa.gov](mailto:samek.karen@epa.gov).

Enclosure

**ACCEPTED**

02/14/2017

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 89168-60

Group **14 15** Herbicide

# LIBERTY SULFENT/R-MET

ACTIVE INGREDIENTS:	% BY WT.
Sulfentrazone .....	7.55%
Metolachlor .....	68.25%
<b>OTHER INGREDIENTS:</b> .....	<u>24.20%</u>
<b>TOTAL:</b> .....	100.00%

Contains a total of 7.0 lb/gal which include 0.7 lb ai sulfentrazone and 6.3 lb ai metolachlor per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS.

EPA REG. NO. 89168-

EPA EST. NO.:

NET CONTENTS: \_\_\_ GAL (\_\_\_ L)

**Manufactured for:**  
LIBERTY CROP PROTECTION, LLC  
4850 Hahns Peak Drive, Suite 200  
Loveland, CO 80538

020117

## FIRST AID

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15- 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes. Then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 or your poison control center at 1-800-222-1222.	

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### Personal Protective Equipment (PPE)

Applicators and other handlers must wear: Coveralls over short-sleeved shirt and short pants; chemical- resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride  $\geq$  14 mils, chemical- resistant footwear plus socks, and chemical resistant apron when cleaning equipment, mixing, or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240)(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS. Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)]. When using the closed system, the mixers' and loaders' PPE requirements may be reduced or modified as specified in the WPS.

## USER SAFETY RECOMMENDATIONS

### Users should:

- Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## Environmental Hazards

This pesticide is toxic to fish and marine/estuarine invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

## Mixing/loading Instructions

Care must be taken when using this product to prevent back-siphoning into wells, spills or improper disposal of excess pesticide, spray mixtures, or rinsates. Check-valves or antisiphoning devices must be used on all mixing and/or irrigation equipment.

LIBERTY SULFENT/R-MET may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sinkholes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pads or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rainwater that may fall on the pad.

Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Product must be used in a manner that will prevent back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.

**Groundwater advisory:** The active ingredients in this product are known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

**Do not use on coarse soils classified as sand, which have less than 1% organic matter.**

**Surface water advisory:** This product can contaminate surface water through spray drift. Under some conditions, this product may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

## Physical/Chemical Hazards

Do not use or store near heat or open flame.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulation.

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. These requirements only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.**

**Exception:** if the product is soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Personal Protective Equipment (PPE) required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: Coveralls over short-sleeve shirt and short pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, and chemical-resistant footwear plus socks.

#### **RESISTANCE MANAGEMENT**

This product is a combination of Group 14 and Group 15 herbicides. Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore, herbicides should be used in conjunction with the resistance management strategies in the area. Consult the local or State agricultural advisors for details.

If herbicide resistance should develop in the area, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions, or abnormally high weed pressure, a resistant strain of weed may have developed.

To reduce the potential of weed resistance, use this product in a rotation program with other classes of chemistry and modes of action. Always apply this product at the listed rates and in accordance with the use directions. Do not use less than listed label rates alone or in tank mixtures. Do not use reduced rates of the tank mix partner. Scout field carefully before application for identification and growth stage and after application to look for poor performance or likely resistance. For best results, begin applications when weeds are smaller rather than larger. Report any incidence of repeated non-performance of this product on a particular weed to local extension specialists, certified crop advisors, or your LIBERTY representative.

#### **PRODUCT INFORMATION**

LIBERTY SULFENT/R-MET is a soil-applied herbicide for the control of susceptible broadleaf, grass and sedge weeds. If adequate moisture (1/2" to 1") from rainfall or irrigation is not received within 7 to 10 days after the LIBERTY SULFENT/R-MET treatment, a shallow incorporation (less than 2"), may be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1") is not received LIBERTY SULFENT/R-MET will provide a reduced level of control of susceptible germinating weeds.

Observe all instructions, crop restrictions, mixing directions, application precautions, replanting directions, rotational crop guidelines and other label information of each product when tank mixing with LIBERTY SULFENT/R-MET. Tank mixtures are permitted only in those states where the tank mix partner is registered. LIBERTY SULFENT/R-MET can be mixed with water, liquid fertilizer, or mixtures of water and liquid fertilizer and applied as a preplant or preemergence treatment to labeled crops. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Under normal growing conditions, LIBERTY SULFENT/R-MET exhibits excellent crop safety. Soil applications of LIBERTY SULFENT/R-MET must be made before crop seed germination to prevent injury to the emerging crop seedlings. LIBERTY SULFENT/R-MET applied after crop emergence will cause severe injury to the crop. Poor growing conditions, such as excessive soil moisture, cool temperatures, and soil compaction or the presence of various pathogens may impact seedling vigor. Under these conditions, the active ingredients in LIBERTY SULFENT/R-MET can contribute to crop response. Refer to the specific directions of use for a particular crop/use pattern as set forth below for additional information.

**Restrictions**

- Do not apply other products containing sulfentrazone or metolachlor to the crop unless specified in the individual crop section.
- Do not use in nurseries, turf or landscape plantings.

**Mechanism of Action**

Following the application of LIBERTY SULFENT/R-MET to soil, germinating seeds and seedlings take up LIBERTY SULFENT/R-MET from the soil solution. The amount of LIBERTY SULFENT/R-MET in soil solution available for weed uptake is determined primarily by soil type, soil organic matter and soil pH. Similar to other herbicides, LIBERTY SULFENT/R-MET adsorbs to the clay and organic matter (OM) fractions of soils; effectively limiting the amount of active ingredient immediately available to control weeds.

**Influence of soil type, organic matter and pH on LIBERTY SULFENT/R-MET use rates and crop response**

Coarse textured and high pH >7.2 soils (see table below) will exhibit increased weed control and crop response with LIBERTY SULFENT/R-MET. It is important to know the soil type and soil pH levels of the field (or areas within a field) before application to determine the proper rate of LIBERTY SULFENT/R-MET for the crop. Soil organic matter content and soil pH can vary widely and independently of soil type and requires an accurate analysis of representative soil samples or grids of soil samples within a specific field to determine its content.

It is important to note that irrigation with highly alkaline water (high pH) following a LIBERTY SULFENT/R-MET soil application can also significantly increase the amount of LIBERTY SULFENT/R-MET available in the soil solution. Irrigation with water having a pH greater than 7.2 could result in adverse crop response. This response will ultimately depend on initial LIBERTY SULFENT/R-MET application rate, timing, amount and pH of irrigation water and sensitivity of the crop and it's growth stage when irrigated. The risk of adverse crop response will lessen with the advance in growth stage among most crops.

**SOIL TEXTURE CLASSIFICATION CHART**

<b>COARSE</b>	<b>MEDIUM</b>	<b>FINE</b>
Sand	Sandy clay loam	Silty clay loam
Loamy sand	Sandy clay	Silty clay
Sandy loam	Loam	Clay loam
	Silt loam	Clay
	Silt	

**APPLICATION INFORMATION**

**Ground and Aerial Application**

Utilize a sprayer equipped with the appropriate nozzles providing optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles that produce minimal amounts of fine spray droplets to avoid spray drift. Apply a minimum of 10 gallons of finished spray solution per acre by ground or 5 gallons by air. The sprayer should be properly calibrated to deliver the appropriate volume of herbicide solution. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.



### **Restrictions**

- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or wind erosion:
  1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
  2. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
  3. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops, unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

### **Restrictions for Ground Application**

- Ground applicators must use a minimum finished spray volume of 10 gallons per acre.
- When tank mixed with a contact down herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.
- For boom spraying, the maximum release height is 30 inches from the soil for ground applications.

### **Restrictions for Aerial Application**

- Aerial application is allowed only when environmental conditions prohibit ground application. Aerial application will be allowed when the field is too wet to safely apply pesticides using ground equipment.
- When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

### **Chemigation Application**

Apply LIBERTY SULFENT/R-MET in 0.25 to 1 inch of water. Use the lower water volume on coarse textured soil and higher volume on fine textured soils. Applying >1" of irrigation water may result in reduced weed control by moving the product below the weed germination zone in the soil. Apply immediately after planting unless specified differently in the individual crop section. LIBERTY SULFENT/R-MET may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Crop injury, lack of effectiveness or illegal residues on or in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

LIBERTY SULFENT/R-MET should be metered into the irrigation system continuously for the duration of the water application. LIBERTY SULFENT/R-MET should be diluted in sufficient volume to insure accurate application over the



area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; **DO NOT APPLY LIBERTY SULFENT/R-MET THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. LIBERTY SULFENT/R-MET may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

It is important to note that irrigation with highly alkaline water (high pH) following a LIBERTY SULFENT/R-MET soil application may significantly increase the amount of sulfentrazone available in soil solution. Irrigation with water having a pH greater than 7.2 could result in adverse crop response.

#### **Restrictions**

- Do not apply this product through any other type of irrigation system.
- Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system.

#### **Application with Dry Fertilizers**

LIBERTY SULFENT/R-MET may be applied impregnated on dry fertilizers. When applied as directed with adequate soil coverage, LIBERTY SULFENT/R-MET/dry bulk fertilizer mixtures will provide satisfactory weed control.

Follow all LIBERTY SULFENT/R-MET label directions regarding product use rates per acre, registered crops, incorporation, special instructions and precautions. Apply LIBERTY SULFENT/R-MET/dry fertilizer mixtures with ground equipment only. All individual state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company preparing, storing, transporting, selling or applying the LIBERTY SULFENT/R-MET/dry fertilizer mixture.

#### **Impregnation Directions**

To impregnate LIBERTY SULFENT/R-MET on dry bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment.

Prepare a slurry of LIBERTY SULFENT/R-MET in a clean container using clear water. Slowly add the LIBERTY SULFENT/R-MET/water slurry to the impregnation spray tank and finish filling as needed with clear water. Spray nozzles must be placed to provide uniform coverage of LIBERTY SULFENT/R-MET onto the fertilizer during mixing. Refer to the SPRAYER EQUIPMENT CLEAN-OUT section for directions for cleaning impregnation equipment, transport equipment, loading equipment and application equipment.

Apply the LIBERTY SULFENT/R-MET dry bulk fertilizer with an accurately calibrated dry fertilizer spreader. The LIBERTY SULFENT/R-MET dry bulk fertilizer mixture must be spread uniformly on the soil surface. Uneven spreading leaving untreated areas can cause poor weed control or overlapping areas with potential increased LIBERTY SULFENT/R-MET use rates could result in possible crop response.

A minimum of 200 pounds of dry bulk fertilizer impregnated with the listed amount of LIBERTY SULFENT/R-MET must be applied per acre to achieve adequate soil coverage for satisfactory weed control.

Refer to the appropriate crop section of the LIBERTY SULFENT/R-MET label to determine the rate of LIBERTY SULFENT/R-MET to be applied per acre. Use the following table to determine the amount of LIBERTY SULFENT/R-MET to be impregnated on a ton (2000 pounds) of dry bulk fertilizer based on the rate of fertilizer that will be applied per acre.

For those rates not listed in the table below, RATE CHART FOR IMPREGNATION OF DRY BULK FERTILIZERS WITH LIBERTY SULFENT/R-MET, calculate the amount of LIBERTY SULFENT/R-MET to be impregnated on a ton of dry bulk fertilizer using the following formula:

**RATE CHART FOR IMPREGNATION OF DRY BULK FERTILIZERS WITH LIBERTY SULFENT/R-MET**

Dry Fertilizer Rate / Acre (lb/a)	Fluid Ounces of LIBERTY SULFENT/R-MET PerTon of Fertilizer		
	LIBERTY SULFENT/R-MET Use Rate Per Acre		
	14 Fl Oz / Acre	26 Fl Oz / Acre	35 Fl Oz / Acre
200	140	260	350
250	112	208	280
300	93	173	233
350	80	148	200
400	70	130	175
450	62	114	154

**Restrictions**

- Do not impregnate LIBERTY SULFENT/R-MET onto coated on ammonium nitrate, potassium nitrate, or sodium nitrate either alone or in blends with other fertilizers because these materials will not absorb the herbicide.
- Do not use LIBERTY SULFENT/R-MET alone or in mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.
- To avoid crop injury, do not use the herbicide/fertilizer mixture on crops where bedding occurs.

**Application with Liquid Fertilizer**

LIBERTY SULFENT/R-MET may be applied using liquid fertilizer or fertilizer and water mixtures as the carrier. Adequate soil coverage is essential to achieve acceptable levels of weed control. Herbicide mixing, solution stability and/or compatibility problems may occur when liquid fertilizers are used as a carrier. Compatibility tests must be conducted prior to mixing to insure tank mixture compatibility and stability. The use of compatibility agents may be beneficial to achieve and maintain a homogenous solution.

**Mixing Instructions for Liquid Fertilizer Applications**

Fill the clean spray tank to one half of the total volume with the fertilizer solution. Start the spray tank agitation system. Pre-slurry LIBERTY SULFENT/R-MET with water prior to adding to the spray tank. Carefully rinse the empty container, adding the rinsate to the spray tank.

Complete filling the spray tank to the desired level. Sufficient and continuous spray tank agitation is required at all times to maintain a homogenous spray solution. The spray system must be designed such that there is sufficient flow capacity to uniformly apply the spray mixture and maintain adequate tank agitation. Some systems may require separate pumps to simultaneously supply the spray system and the spray tank agitation system. Insure the LIBERTY SULFENT/R-MET slurry is thoroughly mixed before application. For tank mixtures with other herbicide(s), a compatibility test must be conducted to insure product compatibility before mixing. Read and follow all the directions, precautions and restrictions of the tank mixture products prior to mixing.

Apply the LIBERTY SULFENT/R-MET spray mixture immediately after mixing. It is not recommended to store the sprayer overnight or for any extended period of time with the LIBERTY SULFENT/R-MET spray mixture remaining in the tank. Thoroughly re-agitate spray mixture if product is left sitting in the tank for extended period of time.

If LIBERTY SULFENT/R-MET is mixed and loaded in nurse tanks, thorough agitation of spray solution is required prior to off-loading and application.

Follow all LIBERTY SULFENT/R-MET label directions regarding product use rates per acre, registered crops, application instructions, incorporation directions, special instructions and all precautions.

All individual state regulations relating to liquid fertilizer blending, storage, transportation, registration, labeling, and application are the responsibility of the individual and/or company preparing, selling or applying the LIBERTY SULFENT/R-MET and fertilizer mixture.

## SPRAY DRIFT MANAGEMENT

### AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations:

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.
- When states have more stringent regulations, they must be observed.

### Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage for pesticide performance. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on Wind, Temperature and Humidity, and Temperature Inversions in subsequent sections).

### Controlling Droplet Size

**Volume** - Nozzles with higher rated flow generally produce larger droplets.

**Pressure** - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure. Avoid spray pressures >40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles. Do not exceed the nozzle manufacturer's recommended pressures. Lower pressure produces larger droplets in many types of nozzles.

**Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Type** - Use nozzles to provide uniform coverage that are designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles for both ground and aerial applications.

**Spray Nozzles and Droplet Size** - Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE Standard S-572. Select coarse to very coarse droplet size when product is used as a preemergent/preplant application. Select medium to very coarse droplet size when product is used postemergence with a contact burndown herbicide. Applicators may spray only when wind speed is between 3 and 10 mph. Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE standard).

**Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height** - Aerial applications should not be made at a height greater than 10 feet above the top of the target plant canopy unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment**- When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

**Wind** - Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.

**Temperature and Humidity**- When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions**- Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a

concentrated cloud. This cloud can move in unpredictable directions due to the low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas** - The pesticide should only be applied when the wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops). To assure that spray will not adversely affect adjacent sensitive non-target plants, apply LIBERTY SULFENT/R-MET by aircraft at a minimum upwind distance of 400 ft. from sensitive plants. Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

#### **Off-Target Movement of LIBERTY SULFENT/R-MET**

Drift of dilute spray mixtures containing LIBERTY SULFENT/R-MET must be prevented. Observation of the environmental conditions, correct application equipment design, calibration and application practices will reduce the risk of off-target spray drift. LIBERTY SULFENT/R-MET can cause damage by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by LIBERTY SULFENT/R-MET drift mixtures. Depending on sensitivity of the plants, the concentration of the spray solution and droplets size these spots or lesions may or may not coalesce. These effects will usually not have lasting effects on plant growth, but can reduce the value of *affected* fruit or foliage where grade or quality is associated with appearance. In drift instances with sensitive crops, defoliation of affected foliage could result.

### **MAXIMUM ALLOWABLE LIBERTY SULFENT/R-MET for Dry Beans & Peas, Soybeans and Sunflowers**

#### **USE PER ACRE PER 12 MONTH CROPPING YEAR PERIOD**

The total allowed usage includes all applications made to the field per twelve-month cropping year. This includes all pre plant and after plant pre emerge treatments.

#### **Restriction**

- Do not exceed maximum allowed use rate of sulfentrazone or metolachlor on each crop. Refer to the crop section of this label for specific product use directions.
- Do not exceed 38.7 fl. oz./A of LIBERTY SULFENT/R-MET, equal to 2.12 lbs. total ai/A; 0.21 lb. sulfentrazone ai/A; and 1.90 lbs. metolachlor ai/A

#### **CROP ROTATIONAL RESTRICTIONS**

The following Table, **CROP ROTATIONAL RESTRICTIONS**, shows the minimum interval in months from the time of the last LIBERTY SULFENT/R-MET application until LIBERTY SULFENT/R-MET treated soil can be replanted to the crops listed. When LIBERTY SULFENT/R-MET is tank mixed with another herbicide, refer to the partner label for re-cropping instructions, following the directions that are most restrictive.

Some crops have rotational intervals greater than 12 months after a LIBERTY SULFENT/R-MET application due to potential crop injury. A representative bioassay of the field shall be completed with the rotational crop to accurately determine the planned crop's sensitivity to LIBERTY SULFENT/R-MET.

#### **Restriction**

- Do not rotate to food or feed crops other than those listed on the label.

**CROP ROTATIONAL RESTRICTIONS\***

Crop	Interval (Months)	Crop	Interval (Months)
Alfalfa*	12	Potatoes	Anytime
Barley	4.5	Rice	10
Cabbage	2	Rye	4.5
Cereal Grains (Oats, Pearl Millet, Prose Millet, Teosinte, Wild Rice)	12	Sorghum	10
Buckwheat	12	Soybeans	Anytime
Corn, Field	10	Sugar Beets	36
Corn, Pop, Sweet	18	Sunflowers	Anytime
Cotton	18 or 12**	Triticale	4.5
Dry Shell Peas and Beans	Anytime	Tobacco	10
Horseradish	Anytime	Tomato	Anytime
Limas Beans-Tennessee Only	Anytime	Wheat	4.5
Peanuts	Anytime		

\* To avoid injury to rotational alfalfa, (1) Do not apply more than 1.9 lb ai metolachlor per acre in the previous crop, and (2) Do not make lay-by or other postemergent applications of products containing metolachlor in the previous crop.

\*\* Cotton may be planted after 12 months where LIBERTY SULFENT/R-MET was applied at rates 36 oz/acre or less and meets the following conditions:

- Medium and fine soils
- pH <7.2
- Rainfall or irrigation must exceed 15" after application of LIBERTY SULFENT/R-MET to rotate to cotton

For all other crops not listed, the rotation interval is a minimum of 12 months with a representative bioassay to determine crop safety before planting.

**REPLANTING INSTRUCTIONS**

If initial planting of labeled crops fails to produce a stand, only crops labeled for LIBERTY SULFENT/R-MET or the tank mix partner; whichever is most restrictive, may be planted based on the amount of product initially applied. When replanting use minimum soil tillage to preserve the herbicide barrier and achieve maximum weed control.

**Restrictions**

- Do not retreat field with LIBERTY SULFENT/R-MET or other herbicide containing sulfentrazone and metolachlor.
- Do not plant treated fields to any crop at intervals that are inconsistent with the Rotational Crop Guidelines on this label.

**BAND TREATMENT APPLICATIONS**

For band treatments, apply the broadcast equivalent rate and volume per acre. To determine these:

Band width in inches	X	Broadcast rate per acre	=	Band Rate
Row width in inches				
Band width in inches	X	Broadcast volume per acre	=	Band volume
Row width in inches				

**MIXING AND LOADING INSTRUCTIONS**

LIBERTY SULFENT/R-MET may be applied alone, or in tank mixtures with other labeled herbicides for the control of additional weed species. Mixtures with some other pesticides have not been tested. Conduct appropriate

compatibility tests prior to tank mixing with other pesticides. Follow all precautions and restrictions on the tank mix partner label.

It is important that spray equipment is clean and free of existing pesticide residues before preparing LIBERTY SULFENT/R-MET spray mixtures. For all tanks containing spray solution follow the spray tank clean out procedures specified on the label of the product or products previously applied.

For best results fill spray tank with one half of the volume of clean water needed for the field to be treated. Start agitation system. Slowly add the LIBERTY SULFENT/R-MET to the spray tank. Carefully rinse the empty container, adding the rinsate to the spray tank. Complete filling the spray tank to the desired level. Continuous spray tank agitation is required at all times to maintain a uniform spray solution. Make sure LIBERTY SULFENT/R-MET is thoroughly mixed before application.

Use the LIBERTY SULFENT/R-MET spray mixture immediately after mixing. Avoid storing the sprayer overnight or for any extended period of time with the LIBERTY SULFENT/R-MET spray mixture remaining in the tank.

If LIBERTY SULFENT/R-MET is tank mixed with other labeled herbicides, all additional directions, restrictions and precautions for the tank mixture herbicides must be followed.

### **SPRAYER EQUIPMENT CLEAN-OUT**

As soon as possible after spraying LIBERTY SULFENT/R-MET and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned to avoid potential crop effects using the following procedure. Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if they are not properly cleaned. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with LIBERTY SULFENT/R-MET as required on the other product labels. More complete cleaning can be achieved if the spray system is cleaned immediately following the application.

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.
5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with LIBERTY SULFENT/R-MET solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers

If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

Should small quantities of LIBERTY SULFENT/R-MET remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. Liberty accepts no liability for any effects due to inadequately cleaned equipment.

Do not drain or flush equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.



## SOYBEANS

LIBERTY SULFENT/R-MET Use Rate			
Fall, Spring Early Preplant, Preemergence, and Preplant Incorporated Applications			
Broadcast Rate	Fluid Ounces of LIBERTY SULFENT/R-MET per Acre		
% Organic Matter	Soil Texture		
	Coarse	Medium	Fine
<1.5	19-25	25-32	25-32
1.5 – 3	25	25-32	25-32
>3	25	25-32	32-38.7

Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories  
For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.

### Weeds Controlled

The following is a general list of weeds for which LIBERTY SULFENT/R-MET has shown control or suppression. The level of control will vary per use rate, cropping system, environmental conditions, moisture levels and soil type. LIBERTY SULFENT/R-MET may not control all of the weeds listed under all crop conditions.

Amaranth, Palmer	<i>Amaranthus palmeri</i>
Amaranth, spiny	<i>Amaranthus, spinosus</i>
Amaranth, spleen	<i>Amaranthus dubius</i>
Barnyardgrass	<i>Echinochloa crus-galli (L.) Beauv.</i>
Broadleaf signalgrass	<i>Urochloa platyphyl/a (Nash) R. D.</i>
Copperleaf, hophornbeam	<i>Acalypha ostryifolia Riddell</i>
Crabgrass spp.	<i>Digitaria spp.</i>
Crowfootgrass	<i>Dactyloctenium aegyptium (L.) Willd.</i>
Cupgrass, Prairie	<i>Eriochloa contracta Hitchc.</i>
Cupgrass, Southwestern	<i>Eriochloa acuminata (J. Presl) Kunth</i>
Fall Panicum	<i>Panicum dichotomiflorum Michx.</i>
Florida Pusley	<i>Richardia scabra L.</i>
Foxtail, Giant	<i>Setaria faberi Herrm.</i>
Foxtail, Green	<i>Setaria viridis (L.) Beauv.</i>
Foxtail, Robust	<i>Setaria viridis var. robusta</i>
Foxtail, Yellow	<i>Setaria glauca (L.) Beauv.</i>
Foxtail, bristly	<i>Setaria verticillata (L.) Beauv.</i>
Goosegrass	<i>Eleusine indica (L.) Gaertn.</i>
Groundcherrv, cutleaf	<i>Physalis angulate L.</i>
Hairy galinsoga	<i>Galinsoga ciliata (Raf) Blake</i>
Kochia (ALS and Triazine Resistant)	<i>Kochia scoparia (L.) Schrad</i>
Lambsquarters, common	<i>Chenopodium album</i>
Morningglorv, entireleaf	<i>Ipomea hederacea integrus</i>
Morningglory, ivyleaf	<i>Ipomea hederacea hederacea</i>
Morningglorv, Palmleaf	<i>Ipomea Wrightii</i>
Morningglory, pitted	<i>Ipomoea lacunosa L.</i>
Morningglory, purple	<i>Ipomea turbinate</i>
Morningglorv, red	<i>Ipomea coccinea</i>
Morningglory, scarlet	<i>Ipomea hederifolia</i>
Morningglorv, small flower	<i>Jacquemontia tamnifolia (L.) Griseb.</i>
Morningglory, tall	<i>Ipomea, purpurea</i>
Nightshade, black	<i>Solanum nigrum</i>
Nightshade, eastern black	<i>Solanum americanum</i>
Pigweed, red root	<i>Amaranthus retroflexus</i>



Pigweed, spiny	<i>Amaranthus</i>
Sida, prickly	<i>Sida spinosa L.</i>
Smartweed, Pennsylvania (seedling)	<i>Polygonum pennsylvanicum L.</i>
Star of Bethlehem	<i>Omithogalum umbellatum L.</i>
Texas panicum	<i>Panicum texanum L.</i>
Thistle, Russian	<i>Salsola tragus L.</i>
Tropical Spiderwort	<i>Commelina benghalensis L.</i>
Waterhemp, common	<i>Amaranthus rudis</i>
Waterhemp, tall	<i>Amaranthus tuberculatos</i>
Witch grass	<i>Panicum capillare L.</i>
<b>SEDGES (suppression only)</b>	
Nutsedge, purple	<i>Cyperus rotundus</i>
Nutsedge, yellow	<i>Cyperus esculentus</i>
Sedge, annual	<i>Cares spp.</i>

### Fall Applications

LIBERTY SULFENT/R-MET may be applied as a fall treatment to the stubble of harvested crops for preemergence control of labeled weeds the following spring in no-till and conservation tillage production systems. Fall applications of LIBERTY SULFENT/R-MET must be made in weed control programs that include, as needed, spring application of preplant, preemergence or postemergence herbicides for the following crop season. Applications to ridge till production systems must be made after the formation of ridges or bedded. Apply when the sustained soil temperature at a 4-inch depth is less than 55°F and falling.

If weeds are emerged at the time of application, utilize a tank mixture with a suitable burndown herbicide at labeled rates.

### For Fall Application

- Apply after September 30 in ND, SD, MN, WI and north of Route 30 in IA.
- Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
- Apply after October 31 north of Route 136 in IL.
- Do not make fall applications south of Interstate 70.

### Early Preplant, Preplant Incorporated, and Preemergence Applications (Spring Applications)

Use on medium to fine soils with minimum tillage or no-tillage systems in CO, CT, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI WV and WY. LIBERTY SULFENT/R-MET can be applied Early Preplant, Preplant Incorporated or Preemergence up to 3 days after planting but prior to emergence. For preplant incorporated applications, incorporation must be uniform and no deeper than 2 inches. Improper soil incorporation may result in erratic weed control and/or crop injury. LIBERTY SULFENT/R-MET applied near or after crop emergence may cause severe injury to the crop. LIBERTY SULFENT/R-MET can be applied alone or in combination with other soybean herbicides, including those containing sulfentrazone, as long as the sulfentrazone active ingredient rate does not exceed 0.375 lb a.i./A per season. Do not apply more than 2.387 lb a.i./A metolachlor per season. LIBERTY SULFENT/R-MET may be followed by labeled postemergence soybean herbicides for increased control of grass and broadleaf weeds. Always follow the most restrictive label when tank mixing. When using LIBERTY SULFENT/R-MET in no-till or minimum till cropping systems, tank mix with an appropriate burndown herbicide for improved control of existing weeds. Apply on coarse soils no more than 2 weeks prior to planting.

### Precautions

- When applying LIBERTY SULFENT/R-MET with other registered herbicides, refer to specific label information on precautions, restrictions, instructions, limitations, application methods and timings, and weeds controlled.

**Restrictions**

- Do not apply more than 38.7 fl oz per acre of LIBERTY SULFENT/R-MET per crop year.
- Do not apply within 90 days of harvest
- Do not graze or feed treated forage or hay from soybeans to livestock following a post-emergence application.
- Do not graze or feed treated soybean forage, hay or straw to livestock for 30 days after treatment.
- Do not use on soils classified as sand, which have less than 1 % organic matter.
- Do not apply to frozen soils or existing snow cover to prevent LIBERTY SULFENT/R-MET runoff from rain or snowmelt that may occur following application.
- Do not apply after crop seed germination.

**SUNFLOWERS**

LIBERTY SULFENT/R-MET Use Rate			
Preemergence and Preplant Incorporated Applications			
Broadcast Rate	Fluid ounces of LIBERTY SULFENT/R-MET per acre		
% Organic Matter	Soil Texture		
	Coarse	Medium	Fine
<1.5	17-21	25.7	21-30
1.5 – 3	17-25.7	32.4	25.7-32.4
>3	25.7	25.7-32.4	32.4-38.7

Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories  
For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.

**Weeds Controlled**

When applied according to directions in sunflower, LIBERTY SULFENT/R-MET will provide control of:

Amaranth, Palmer	Kochia (ALS and Triazine Resistant)	Pigweed, red root
Barnyardgrass	Lambsquarters, common	Pigweed, smooth
Fall Panicum	Morningglory, ivyleaf	Thistle, Russian
Foxtail, giant	Morningglory, tall	Waterhemp, common
Foxtail, green	Nightshade, black	Waterhemp, tall
Foxtail, yellow	Nightshade, Eastern black	Witch grass

Note: Partial control will occur under dry conditions, under heavy pest pressure or at low use rates under 26 fl oz. Under these conditions plan to use a labeled post-emergence herbicide for improved control.

**Preemergence (Spring Applications)**

LIBERTY SULFENT/R-MET can be applied preemergence up to 3 days after planting as a soil surface application if seedlings have not broken the soil surface and if the seed furrow is completely closed and completely covered with soil. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall or irrigation. If adequate moisture is not received within 7 to 10 days after the LIBERTY SULFENT/R-MET treatment, a shallow incorporation may (less than 2 inches) be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received LIBERTY SULFENT/R-MET will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced. If applying on coarse soils with less than 1.5% organic matter, wait a minimum of 7 days after application before planting.

If weeds are emerged at the time of LIBERTY SULFENT/R-MET application, use a labeled burndown herbicide such as Aim herbicide, glyphosate or paraquat at the full-labeled rate in combination with LIBERTY SULFENT/R-MET as needed.

### **Spring Preplant Incorporated (PPI)**

When planting into soil treated preplant with LIBERTY SULFENT/R-MET minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control. LIBERTY SULFENT/R-MET can be applied as a Preplant Incorporated treatment in the spring up to 2 weeks prior to planting in reduced and conventional tillage sunflowers. LIBERTY SULFENT/R-MET should be shallowly incorporated in the soil no deeper than 2 inches. Incorporating LIBERTY SULFENT/R-MET deeper than 2 inches can result in inconsistent weed control. Use the appropriate rate from above for the soil texture, soil organic matter, and soil pH level.

### **Precautions**

- Plant sunflowers 1.5" deep and completely cover with soil.
- Adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.2 or higher, or on highly eroded soils, hilltops, or in areas of calcareous outcroppings. LIBERTY SULFENT/R-MET use rates should be reduced to 14 fl oz in those areas or not applied in these areas at all. Inadequate seed furrow closure or shallow planting (less than 1.5 inch) may result in undesirable crop response and this product should not be applied. Poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of LIBERTY SULFENT/R-MET and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Product Application Instructions, LIBERTY SULFENT/R-MET Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with LIBERTY SULFENT/R-MET. Consult seed companies and university or extension weed management personnel for additional information on specific local varieties or cultivars and any other pertinent information on LIBERTY SULFENT/R-MET Herbicide under specific local conditions.

### **Restrictions**

- Do not apply more than 38.7 fl oz of LIBERTY SULFENT/R-MET per crop year
- Do not apply herbicides containing sulfentrazone to sunflowers if LIBERTY SULFENT/R-MET has been previously applied within the same twelve month period.
- Do not apply to frozen soils or existing snow cover to prevent LIBERTY SULFENT/R-MET runoff from rain or snowmelt that may occur following application.
- Do not allow livestock to graze or feed in treated area.
- Do not apply after crop seed germination.
- Do not use on soils classified as sand, which have less than 1 % organic matter.
- Do not incorporate greater than 2 inches deep.

### **DRY SHELLED BEANS AND PEAS**

Dried cultivars of bean (*Lupinus*); bean (*Phaseolus*)(includes field bean, black bean, kidney bean, lima bean (dry), navy bean, pink bean, pinto bean, tepary bean), small red bean, great northern bean; bean (*Vigna*) (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); guar; lab lab bean; pea (*Pisum*) (includes field pea and chickpea) and pigeon pea.

<b>LIBERTY SULFENT/R-MET Use Rate</b>			
Fall or Spring Early Preplant, Preemergence and Preplant Incorporated Applications			
<b>Broadcast Rate</b>	<b>Fluid ounces of LIBERTY SULFENT/R-MET per acre</b>		
<b>% Organic Matter</b>	<b>Soil Texture</b>		
	<b>Coarse</b>	<b>Medium</b>	<b>Fine</b>
<1.5	13-17	17-26	17-26
1.5 – 3	17-26	21-34	26-34
>3	21-34	26-38.7	30-38.7
Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.			

**Weeds Controlled**

The following is a general list of weeds for which LIBERTY SULFENT/R-MET has shown control or suppression. The level of control will vary per use rate, cropping system, environmental conditions, moisture levels and soil type. LIBERTY SULFENT/R-MET may not control all of the weeds listed under all crop conditions. For crops where lower use rates are needed for crop tolerance refer to their specific weed list.

Amaranth, Palmer	Kochia (ALS and Triazine Resistant)	Pigweed, red root
Barnyardgrass	Lambsquarters, common	Pigweed, smooth
Fall Panicum	Morningglory, ivyleaf	Thistle, Russian
Foxtail, giant	Morningglory, tall	Waterhemp, common
Foxtail, green	Nightshade, black	Waterhemp, tall
Foxtail, yellow	Nightshade, Eastern black	Witch grass

Note: Partial control will occur under dry conditions, under heavy pest pressure or at low use rates under 26 fl oz. Under these conditions plan to use a labeled post-emergence herbicide for improved control.

**FALL APPLICATION**

LIBERTY SULFENT/R-MET may be applied in the fall following crop harvest or in existing fallow fields to control or suppress weeds the following season. LIBERTY SULFENT/R-MET should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product. Do not mechanically incorporate in the fall or spring after application because this activity may destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils to prevent LIBERTY SULFENT/R-MET runoff from rain or snow that may occur following application. LIBERTY SULFENT/R-MET may be tank mixed with other labeled herbicides to control emerged weeds. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received LIBERTY SULFENT/R-MET will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced. Fall application of LIBERTY SULFENT/R-MET may require a follow up grass herbicide treatment as grass escapes may occur.

LIBERTY SULFENT/R-MET should be applied when the sustained soil temperature is 55°F and falling at a soil depth of 4 inches. Applications to ridge till production systems must be made after the formation of ridges or bedded.

**For Fall Application:**

- Apply after September 30 in ND, SD, MN and WI and north of Route 30 in IA.
- Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
- Apply after October 31 north of Route 136 in IL.

LIBERTY SULFENT/R-MET can be tank mixed with other labeled herbicides. Observe all restrictions, precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions.

### **Early Preplant and Preemergence (Spring Applications)**

LIBERTY SULFENT/R-MET can be applied early Preplant or Preemergence up to 3 days after planting if seedlings have not broken the soil surface and if the seed furrow is completely closed and completely covered with soil. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall. If adequate moisture is not received within 7 to 10 days after the LIBERTY SULFENT/R-MET treatment, a shallow incorporation (less than 2 inches) may be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received LIBERTY SULFENT/R-MET will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced.

If weeds are emerged at the time of LIBERTY SULFENT/R-MET application, use a burndown herbicide such as AIM herbicide, glyphosate or paraquat at the full-labeled rate in combination with LIBERTY SULFENT/R-MET as needed.

### **Preplant Incorporated (PPI)**

LIBERTY SULFENT/R-MET can be applied as a Preplant Incorporated treatment in the spring prior to planting in reduced and conventional tillage dry beans and peas. LIBERTY SULFENT/R-MET should be shallowly incorporated in the soil no deeper than 2 inches. Incorporating LIBERTY SULFENT/R-MET deeper than 2 inches can result in inconsistent weed control. Minimize furrow and ridge formation in the tillage operations. Use the appropriate rate from above table for the soil texture, soil organic matter, and soil pH level.

### **Precautions**

- Under extended periods of dry weather, adequate weed control may not be achieved. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall. If adequate moisture is not received within 7 to 10 days after the LIBERTY SULFENT/R-MET treatment, a shallow incorporation may be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1") is not received LIBERTY SULFENT/R-MET will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced.
- Adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.2 or higher, or on highly eroded soils, hilltops, or in areas of calcareous outcroppings. LIBERTY SULFENT/R-MET use rates should be reduced to 13 fl oz in those areas or not applied in these areas at all. Inadequate seed furrow closure or shallow planting (less than 1.5 inch) may result in undesirable crop response and this product should not be applied. Poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of LIBERTY SULFENT/R-MET and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Product Application Instructions, LIBERTY SULFENT/R-MET Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled, Crop Liability Disclaimer and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with LIBERTY SULFENT/R-MET. Consult seed companies and university or extension weed management personnel for additional information on specific local varieties or cultivars and any other pertinent information on LIBERTY SULFENT/R-MET under specific local conditions.

### **Restrictions**

- Do not apply more than 38.7 fl oz of LIBERTY SULFENT/R-MET per crop year.
- Do not apply additional sulfentrazone containing products to dry field beans and peas if LIBERTY SULFENT/R-MET has been previously applied within the same twelve month period.
- Do not apply after crop emerges, or if the seedling is close to the soil surface.
- Do not incorporate to depths greater than 2 inches.
- Do not apply to frozen soils or to existing snow cover to prevent LIBERTY SULFENT/R-MET runoff from rain or snow melt that may occur following application.
- Do not use on soils classified as sand, which have less than 1 % organic matter.

- Do not use for forage within 60 days after an application of LIBERTY SULFENT/R-MET.
- Do not cut for hay within 120 days after an application of LIBERTY SULFENT/R-MET.

### **STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage and disposal.

#### **Pesticide Storage**

Store in original containers only. Keep container closed when not in use. Do not store near food or feed. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area. Do not freeze. Do not store below 40°F. Carefully open containers. If crystals are observed, warm material to above 60°F by place in container in warm location. Shake or roll container periodically to redissolve solids. After partial use, replace lids and close tightly.

#### **Pesticide Disposal**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

#### **Container Handling**

**NONREFILLABLE CONTAINER (EQUAL TO OR LESS THAN 5 GALLONS):** 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 ¼ 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. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**NONREFILLABLE CONTAINER (GREATER THAN 5 GALLONS):** 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. Fill the container ¼ 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. Offer for recycling, if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**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 mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### **CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product, which are beyond the control of LIBERTY CROP PROTECTION LLC or Seller. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW all such risks shall be assumed by Buyer and User and Buyer and User agree to hold LIBERTY CROP PROTECTION LLC and Seller harmless for any claims relating to such factors.

LIBERTY CROP PROTECTION LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or LIBERTY CROP PROTECTION LLC, and TO THE EXTENT CONSISTENT WITH APPLICABLE LAW Buyer and User assume the risk of any such use. To the extent consistent with applicable law LIBERTY CROP PROTECTION LLC MAKES NO WARRANTIES OF

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