

Glyphosate / Tox

(3)

DATE: February 23, 1981

SUBJECT: EPA File Symbol: 524-GUR
MON 8001: Caswell # 116661A

FROM: Deloris F. Graham
FHB/TSS

2/24/81
E 3/2/81

Releasable

TO: Robert Taylor
Product Manager (25)

Applicant: Monsanto Company
800 N. Lindbergh Blvd.
St. Louis, MO 63166

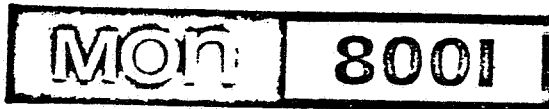
Active Ingredients

Alachlor.....	27.6%
Isopropylamine salt of Glyphosate.....	14.8%
Inert Ingredients.....	57.6%

Background: Monsanto submitted a letter dated February 4, 1981 indicating that an Acute Inhalation Study is not necessary for this product.

Recommendation:

1. As indicated by Monsanto in a letter dated February 4, 1981, an Acute Inhalation Study was not submitted due to the fact that none of the conditions listed in §162.81-3 will exist for MON 8001. It was stated that MON 8001 is neither a gas nor a respirable vapor and the use proposed for registration will not produce a spray consistency of droplets 20% of which are smaller than 10 microns.
2. FHB/TSS agree that an Acute Inhalation Study is not necessary based on the previously stated conditions.



Monsanto

**SHAKE WELL
BEFORE USING**

AVOID CONTACT WITH DESIRABLE PLANTS AND TREES SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals

Keep out of reach of children.

DANGER!

CAUSES EYE BURNS AND SKIN IRRITATION.

HARMFUL IF SWALLOWED.

MAY CAUSE ALLERGIC SKIN REACTION.

Do not get in eyes, on skin or on clothing.

Wear goggles or face shield and rubber gloves in transferring and mixing and when adjusting, repairing or cleaning equipment.

Wash thoroughly after handling.

FIRST AID: IN CASE OF CONTACT, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing. For eyes, call a physician. Wash clothing before reuse. Sensitized persons should avoid further contact and reuse of clothing.

Physical or Chemical Hazard

COMBUSTIBLE

Do not use or store near heat or open flame.

Use only with adequate ventilation.

In case of:

**FIRE, use water spray, foam, dry chemical or CO₂.
SPILL or LEAK, flush area with water spray.**

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Environmental Hazards

Keep out of lakes, streams and ponds. Do not contaminate water by cleaning of equipment or disposal of waste.

Storage and Disposal

STORE ABOVE 32°F. TO KEEP FROM FREEZING. If allowed to freeze, place in a warm room and shake the container frequently to redissolve before using.

Do not contaminate water, foodstuffs, seed or feed by storage or disposal. Open dumping is prohibited.

This product, spray, mixture or rinsate that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticides or buried in a safe place away from water supplies.

Triple rinse container and dispose of in an approved landfill or bury in a safe place. Do not reuse.

Consult federal, state or local disposal authorities for approved alternative procedures.

ACTIVE INGREDIENTS:

Alachlor 27.6%

Isopropylamine salt of Glyphosate 14.8%

INERT INGREDIENTS 57.6%

100.0%

Contains 2.5 pounds of 2-chloro-2,6-diethyl-N-(methoxymethyl)acetanilide and 1.4 pounds* of the isopropylamine salt of N-(phosphonomethyl) glycine per U.S. gallon. *Equivalent to 1.04 pounds per U.S. gallon of the acid, glyphosate.



**In case of an emergency involving this product,
Call Collect, day or night, (314) 634-4000.**

LOT NO.

PACKER

NET

KG.

MONSANTO COMPANY • AGRICULTURAL PRODUCTS • ST. LOUIS, MISSOURI, 63166 U.S.A.

2135.01/53

HERBICIDE MIXTURE BY MONSANTO (MON 8001,

Complete Directions for Use

Read each of the sections of this label for essential product performance information.

Precautionary Statements

General Information

Weeds Controlled

Application Information

Mixing and Spraying Instructions

Tank Mixtures for Use in Minimum Tillage Systems

Read the entire label.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once, unopened.

LIMIT OF WARRANTY AND LIABILITY

This company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this company, including but not limited to incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather (i. weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied with the normal range being determined on the basis of the average range for the prior 10 years computed

from the best available information, and ii. weather perils, including but not limited to hurricanes, tornadoes and floods) as well as weather considerations set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

This warranty is given on the condition that the user or buyer shall use the product in accordance with the Directions and shall not use the product in any manner not explicitly set forth in the Directions. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this company, including but not limited to contact with products other than those set forth in the Directions, application to or contact with undesirable vegetation, unusual weather (i. weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, and the normal range being determined on the basis of the average weather for the period of year conditions

GENERAL INFORMATION

(MON 8001) is recommended for the preemergence and postemergence control of many annual grasses and broadleaf weeds in soybeans and corn grown under NO-TILL or other minimum tillage practices. This product will also provide reduced competition from certain emerged perennial weeds.

Moisture Conditions

Rainfall or sprinkler irrigation within 6 hours after application may reduce control of emerged weeds.

Moisture in the form of rainfall or irrigation is required after application to move this product into the weed germination zone for preemergence weed control. The amount of moisture required depends on the soil moisture content at the time of application, soil type, and plant residues. Performance is improved when 1/3 to 1/4 inch of moisture is received within one week after application and prior to weed emergence. High intensity or excessive rainfall or irrigation after application may reduce preemergence weed control on coarse soils.

READ AND CAREFULLY OBSERVE PRECAUTIONARY STATEMENTS AND ALL OTHER INFORMATION APPEARING ON THE LABELING OF ALL PRODUCTS USED IN MIXTURES.

Attention

AVOID DRIFT, EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE VEGETATION.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation since minute quantities can cause severe damage or destruction to plants on which treatment was not intended. The likelihood of injury to untreated desirable vegetation occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying avoid combinations of pressure and nozzle type that will result in fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

DO NOT MIX THIS PRODUCT WITH LIQUID FERTILIZERS, HERBICIDE OILS OR ANY MATERIALS OTHER THAN WATER, EXCEPT THOSE LISTED ON THIS LABEL.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

DO NOT APPLY THIS PRODUCT TO EMERGED CORN OR SOYBEANS.

DO NOT FEED FORAGE FROM OR GRAZE TREATED AREAS WITHIN 8 WEEKS AFTER APPLICATION.

Flush sprayer with clean water after use.

SOIL TEXTURE

The recommended use rates of this product and the other herbicides labeled for use in tank mixtures with this product generally vary with soil texture. Unless soil texture is specifically named, rate tables throughout this label refer to only three soil texture groups: COARSE, MEDIUM and FINE. The following is a complete listing of soil textures included in each of these three soil texture groups:

SOIL TEXTURE GROUP	SOIL TEXTURE
COARSE:	sand, loamy sand, sandy loam
MEDIUM:	loam, silt loam, silt, sandy clay loam
FINE:	silty clay loam, clay loam, sandy clay, silty clay, clay

Refer to the above table to determine the corresponding soil texture group for the soil to be treated.

WEEDS CONTROLLED

When applied as directed under conditions described, (MON 8001) in tank mixtures with other products listed will control or reduce competition from the weeds indicated. Refer to the Directions for Use section to determine rates for each crop.

Reduced control of emerged weeds may occur when weeds are under poor growing conditions such as from drought stress, when application follows recent mowing or when excessive amounts of dust cover the plants.

(MON 8001) applied in tank mixtures with other products listed will CONTROL the following EMERGED WEEDS:

Annual Grasses

Bluegrass (annual)

Poa annua

Brome (downy)

Bromus tectorum

Corn (volunteer)

Zea mays

Crabgrass

Digitaria ischaemum

D. sanguinalis

Foxtails (giant)

Setaria faberi

(green) *S. veridis*

(yellow) *S. lutescens*

*Panicum (fall)

Panicum dichotomiflorum

Sandbur (field)

Cenchrus spp.

Shattercane

Sorghum bicolor

Wheat (volunteer)

Triticum aestivum

Annual Broadleaves

Fleabane

Erigeron spp.

Kochia

Kochia scoparia

Lambsquarters

Chenopodium album

Lettuce (prickly)

Lactuca serriola

Pigweed, Carelessweed
(redroot)

Amaranthus retroflexus

(smooth) *A. hybridus*

Ragweed (common)

Ambrosia artemisiifolia

(giant) *A. trifida*

Sunflowers

Helianthus annuus

Thistle (Russian)

Salsola kali

Velvetleaf, Buttonweed

Abutilon theophrasti

* 5 quarts of this product are required for satisfactory postemergence control of fall panicum.

(MON 8001) applied in tank mixtures with other products listed will REDUCE COMPETITION from the following EMERGED WEEDS:

Annual Broadleaves

Smartweed
Polygonum pensylvanicum

Perennial Grasses

Bluegrass (Kentucky)
Poa spp.

Bromegrass (smooth)
Bromus inermis

Fescues
Festuca spp.

Muhly (wirestem)
Muhlenbergia frondosa

Perennial Broadleaves

Alfalfa
Medicago sativa

Clover (red)
Trifolium pratense
(white) *T. repens*

Dock (curly)
Rumex crispus

Orchardgrass
Dactylis glomerata

Quackgrass
Agropyron repens

Ryegrass (perennial)
Lolium perenne

Timothy
Phleum pratense

Milkweed
Asclepias spp.

Mullein (common)
Verbascum thapsus

Smartweed (swamp)
Polygonum coccineum

Thistle (Canada)
Cirsium arvense

(MON 8001) applied in tank mixtures with other products will provide PREEMERGENCE CONTROL of the following weeds:

Annual Grasses

Barnyardgrass
Echinochloa crus-galli

Crabgrass
Digitaria ischaemum
D. sanguinalis

Foxtails (giant)
Setaria faberi
(green) *S. viridis*
(yellow) *S. lutescens*

Goosegrass
Eleusine indica

Panicum (fall)
Panicum dichotomiflorum

Signalgrass (broadleaf)
Brachiaria spp.

Witchgrass
Panicum capillare

Annual Broadleaves

Carpeweed
Mollugo verticillata

Kochia
Kochia scoparia

Lambsquarters
Chenopodium album

Mustard
Brassica spp.

Nightshade (black)
Solanum nigrum
(hairy) S. sarachoides

Pigweed, Carelessweed
(redroot)
Amaranthus retroflexus
(smooth) A. hybridus

Purslane
Portulaca oleracea

Pusley (Florida)
Richardia scabra

Ragweed (common)
Ambrosia artemisiifolia
(giant) A. trifida

Sida (spiny), teaweed
Sida spinosa

Smartweed
Polygonum pensylvanicum
P. persicaria

(MON 8001) applied in tank mixtures with other products listed will REDUCE COMPETITION from the following weeds PREEMERGENCE:

Annual Grasses

Sandbur (field)
Cenchrus spp.

Annual Broadleaves

Cocklebur
Xanthium pensylvanicum

Jimsonweed
Datura stramonium

Morningglory (annual)
Ipomoea purpurea

Velvetleaf, Buttonweed
Abutilon theophrasti

REFER TO SPECIFIC PRODUCT LABELS FOR ADDITIONAL WEEDS CONTROLLED, CROP ROTATION RESTRICTIONS AND CAUTIONARY STATEMENTS.

APPLICATION INFORMATION

SHAKE CONTAINER VIGOROUSLY PRIOR TO MIXING AND USE.

Broadcast treatment - Apply this product and labeled tank mixture products in 20 to 30 gallons of water per acre during or after planting, but BEFORE CROP

coverage should be uniform and complete under conditions of
plant residue or very high weed populations, higher rates within
ranges may be needed for best results.

R.

N WATER

MIXING AND SPRAYING INSTRUCTIONS

the compatibility of (MON 8001) with other labeled herb-
all pportional quantities in advance. NOTE: Reduced results
water is used, such as water from ponds or ditches.

label tank mixtures with clean water as follows:
35-mesh screen or wetting basket over filling port.
green, fill the sprayer tank one-half full with water.
components. If a wettable powder is used, make a slurry with
it SLOWLY through the screen into the tank. Continue agitation.

herbicide are used, pre-mix one part flowable with one part water..
mixture SLOWLY through the screen into the tank.
part of (MON 8001) with one part water. Add diluted mixture
the screen into the tank.

ing the prayer tank with water. Remove hose from tank immediately
ing back into the water source. Maintain good agitation at all
the contents of the tank are sprayed.
mixture is allowed to settle at any time, thorough agitation is
to resuspend the mixture before spraying is resumed. Keep by-
near bottom of tank to minimize foaming. Screen size in
line trainers should be no finer than 50 mesh. Carefully
proper nozzle to avoid spraying a fine mist. Check for even dis-
of spray droplets. To reduce loss of chemical due to drift of
mist, apply at pressures less than 40 psi.

DIRECTIONS FOR USE

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

TANK MIXTURES

MINIMUM TILLAGE SYSTEMS

CORN AND SOYBEANS

When applied as directed under the conditions described, these tank mixtures will control many emerged annual weeds, suppress many emerged perennial weeds and give preemergence control of many annual weeds when corn or soybeans will be planted directly into a cover crop, or in previous crop residues. These tank mixtures will not control regrowth from perennial weeds or unemerged perennial weeds.

For mixing instructions, see the "Mixing and Spraying Instructions" section of this label.

The higher recommended rates listed for each soil texture grouping should be used when:

- PREVIOUS CROP RESIDUES ARE EXTREMELY DENSE
- EMERGED WEEDS ARE OVER SIX INCHES TALL
- WHEN HEAVY INFESTATIONS OF ANNUAL GRASSES OR BROADLEAVES ARE EXPECTED
- WHEN SOILS CONTAIN MORE THAN 3% ORGANIC MATTER

to avoid phytotoxicity, apply the product to the soil surface in the following manner:
times and the amount of the product (MON-8001) (Qts./A.)

Soil Texture Group	Broadcast Rate of (MON-8001) (Qts./A.)
COARSE	3.25 to 4
MEDIUM	4 to 5
FINE	4 to 5

CORN

Apply (MON 8001) in tank mixture with atrazine, BladexTM or PrincepTM for control of grasses and broadleaf weeds listed in the "Weeds Controlled" section of this label when CORN is planted directly into a cover crop or in previous crop residues.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures.

See the following table for recommended rates of atrazine, BladexTM OR PrincepTM in this tank mixture applied on various soil types. To determine the recommended rates for (MON 8001) refer to the rate table for this product.

Broadcast Rates (Qts./A)**			
Soil Texture Group*	atrazine 4L	Bladex 4L	Princep 4L
Coarse			
Sandy Loam Only	1 to 1.2	1.0 to 1.6	1.0 to 1.2
Medium	1.2 to 1.6	1.2 to 1.6	1.2 to 1.6
Fine	1.6 to 2.0	1.6 to 2.2	1.6 to 2.0

* Refer to the Soil Texture section of this label to determine the corresponding soil texture group for the soil to be treated.

** When using 4L formulations use the rates listed.

- When using 80W formulations use equivalent rates. One quart of the 4L formulation of these products equals 1.25 pounds of the 80W formulation
- Use the higher rates recommended for each product listed when soils contain more than 3% organic matter.

TMBladex is a registered trademark of the Shell Chemical Company.

TMPrincep is a registered trademark of Ciba-Geigy Corporation.

SOYBEANS

Apply (MON 8001) in tank mixtures with LoroxTM, LexoneTM or SencorTM for control of grasses and broadleaf weeds listed in the "Weed Controlled" section of this label when

SOYBEANS are planted directly into a cover crop, stale seedbed, or in previous crop residues such as wheat stubble.

Refer to specific product labels for crop rotation restrictions and cautionary statements of all products used in these tank mixtures.

See the following table for recommended rates of LoroxTM, LexoneTM OR SencorTM in tank mixtures applied on various soil types. To determine rates for (MON 8001) refer to the rate table for this product.

Broadcast Rate Per Acre		
Soil Texture Group*	Lorox 50 WP (Lbs/A)**	Lexone 4L or Sencor 4F (Qts./A)***
COARSE Sandy Loam Only	1 to 1.5	0.25 to 0.375
MEDIUM	1.5 to 2	0.375 to 0.5
FINE	2 to 3	0.5 to 0.75

* Refer to the Soil Texture section of this label to determine the corresponding soil texture group for the soil to be treated.

** Use the higher rate of Lorox 50 WP in the recommended ranges on soils containing more than 3% organic matter.

*** When using Lexone 50 WP or Sencor 50 WP, use equivalent rates. One part equals 2 pounds of Lexone 50 WP or Sencor 50 WP.

On the silty clay or heavy clay soils of the Mississippi Delta, use 0.75 to 1 quart of Lexone or Sencor per acre.

Use the higher rate of Lexone or Sencor in the recommended ranges on soils with greater than 2% organic matter.

Do not use on muck soils.

Do not apply on alkaline soils with a pH higher than 7.4.

Crop injury may occur if any atrazine was applied on the soil the year before use of this Lexone or Sencor tank mixture.

DO NOT REPLANT CROPS OTHER THAN SOYBEANS FOR 120 DAYS AFTER APPLICATION.

TM Lexone is a registered trademark of E.I. duPont deNemours and Company.

TM Sencor is a registered trademark of the parent company of Farbenfabriken Bayer GmbH, Leverkusen.