

ACCEPTED
 SEP 18 1979
 Under the Federal Insecticide,
 Fungicide, and Rodenticide Act,
 this product has been found to
 comply with the provisions
 of the Act.
 EPA Reg. No. 464-423

SPECIMEN
 REDUCED TO



VERTON[®] 2D

HERBICIDE

A 2,4-D Formulation Designed to Control a Broad Range of Undesirable Broadleaf Weeds and Brush by Application as a Thick Invert Emulsion to Minimize Spray Drift.

ACTIVE INGREDIENT:
 2,4-Dichlorophenoxyacetic acid propylene glycol butyl ether esters 37.0%
INERT INGREDIENTS 63.0%
 2,4-Dichlorophenoxyacetic Acid Equivalent: 23.1%-1.9 lb/gal
 Isomer Specific by AOAC Method No. 6.D01-5
 EPA Reg. No. 464-423 EPA Est. 464-MI-1

PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.
TRANSLATION TO THE USER: If you cannot read English, do not use this product until the label has been fully explained to you.

ways of power and communication lines, pipelines, railroads and highways on forested areas (for control release and site preparation) and on other agricultural and industrial non-cropland areas.

USE DIRECTIONS

General Information: VERTON 2D is designed for use as a thick invert water in oil spray emulsion to minimize spray drift. The spray can be batch mixed in a single spray tank or flash mixed using two or more separate tanks. See label directions under **How to Prepare the Spray** for details.

Apply sprays containing VERTON 2D using either ground or aerial equipment. When the product is batch mixed, equipment designed for use with high viscosity (thickened) sprays must be used. For additional information on both batch and flash inversion mixing and application equipment consult the **INVERT EMULSION MANUAL** available from The Dow Chemical Company.

VERTON 2D may be applied alone (**Program A**) or in combination with either VERTON 21 (**Program B**) or TORDON K (**Program C**) herbicides. Select the best spray program to use based on specific weed and brush species to be controlled.

NOTE: Do not use a spray program that provides a broader range of species control than needed for practical vegetation management objectives.

For best results spray when forage is well developed and weeds and brush are growing actively. With good growing conditions and high soil moisture, application can be made up to 2 or 3 weeks before normal fall frost. Control may be less during hot, dry weather when soil moisture is deficient.

HOW TO PREPARE THE SPRAY: Invert emulsions containing VERTON 2D may be formed in a single tank (**Batch Mixing**) or flash inverted (**Flash Mixing**). Refer to the following directions for methods to be used and consult the **INVERT EMULSION MANUAL** available from The Dow Chemical Company for further details.

Batch Mixing: (to be applied from a single spray tank) To a clean, dry spray tank equipped with good mechanical agitation, add the required amounts of VERTON 2D (plus VERTON 21 if Program B is used and No. 2 fuel or diesel oil or kerosene) and agitate until thoroughly mixed. Then, with continued vigorous agitation, add the required amount of water. If TORDON K is used (Program C), add it with the water at this time. After addition and blending of all ingredients and with continued agitation, recycle the mixture through the spray pumping system and back into the tank to develop the required viscosity (thickness). One or two such cycles are usually enough. Minor variations in viscosity may be obtained by adding small amounts of water to increase the thickness or small amounts of oil to decrease the thickness.

Flash Mixing: Two clean, dry spray tanks are required. To one tank add the required amount of VERTON 2D, add the required amount of water to the other tank. If oil and/or VERTON 21 (Program B) are needed, add them to the VERTON 2D and mix thoroughly.

If TORDON K is used (Program C), thoroughly mix it with the water. If desired, TORDON K may be introduced from a third container to avoid contamination of the water tank. To form the invert emulsion, the contents of each tank are combined in the proper ratio. Further thickening of the emulsion is obtained from shear produced in the mixing system. To ensure the proper ratio of ingredients as selected from the mixing proportion tables, a metering device from each tank is necessary. It also is essential to start flow of the chemical oil phase prior to introducing the water phase. Be sure to consult manufacturer's **INVERT EMULSION MANUAL** for equipment specifications.

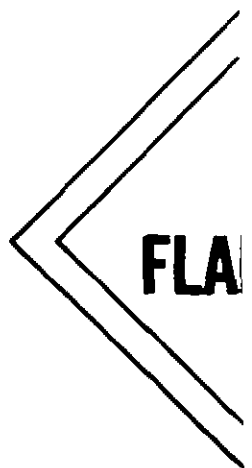
USE PRECAUTIONS

Do not let VERTON 2D or sprays containing it come into contact with vegetables, flowers, grapes, fruit trees or ornamentals, cotton or other desirable plants that are sensitive to 2,4-D, since even minute quantities may cause injury to such plants during either the growing or dormant periods. Applications by either ground or aerial equipment should be made only when there is no hazard from drift. Do not apply by aircraft in the vicinity of cotton, grapes or other desirable 2,4-D susceptible vegetation. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby. Excessive amounts of this product in the soil may temporarily stop seed germination or plant growth. Do not contaminate water used for domestic or irrigation purposes. Do not store near fertilizer, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for VERTON 2D except as specified on label.

Local conditions may affect the use of herbicides. State agricultural experiment station or extension service weed specialists in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

Do not graze dairy animals on treated areas within 7 days after application of VERTON 2D. Follow grazing restrictions given on labeling for VERTON 21 when Program B is used.



KEEP OUT OF REACH OF CHILDREN

CAUTION

MAY BE HARMFUL IF SWALLOWED
COMBUSTIBLE
 Avoid Contact with Eyes, Skin and Clothing • Do Not Use, Pour, Spill or Store Near Heat or Open Flame • Do Not Cut or Weld Container

In case of an emergency endangering life or property involving this product, call collect **517-638-4400**

AGRICULTURAL CHEMICAL
 Do Not Ship or Store with Food, Feeds, Drugs or Clothing

- Carefully note the following points:
- 1 Before using VERTON 2D with VERTON 21, read and observe all use precautions or hazard given on labels for these products.
 - 2 Even though the inverted emulsion form of VERTON 2D is a thicker spray mixture than conventional spray mixtures, care must still be taken to avoid drift of spray to susceptible plants.
 - 3 Coarse sprays are least likely to drift. Use large orifices and a low spraying pressure. Keep out of lakes, streams and ponds. Do not fish. Apply this product only to specified areas.

NET CONTENTS

86-1189 PRINTED IN U.S.A. IN JULY, 1979.
 REPLACES SPECIMEN LABEL 86-1189 PRINTED IN APRIL, 1978.
 DISCARD PREVIOUS SPECIMEN LABELS.
 REVISIONS INCLUDE: INGREDIENT STATEMENT REVISED TO REFLECT ANALYSIS BY AOAC METHOD NO. 6.D01-5.

60

2D

SPECIMEN LABEL
REDUCED TO 71%

**FLAMMABLE
LIQUID
N.O.S.**



Batch Mixing (To be applied from a single spray tank): To a clean, dry spray tank equipped with good mechanical agitation, add the required amounts of VERTON 2D (plus VERTON 2I if Program B is used) and No. 2 fuel or diesel oil or kerosene and agitate until thoroughly mixed. Then, with continued vigorous agitation, add the required amount of water. If TORDON K is used (Program C), add it with the water at this time. After addition and blending of all ingredients and with continued agitation, recycle the mixture through the spray pumping system and back into the tank to develop the required viscosity (thickness). One or two such cycles are usually enough. Minor variations in viscosity may be obtained by adding small amounts of water to increase the thickness or small amounts of oil to decrease the thickness.

Flash Mixing Two clean, dry spray tanks are required. To one tank add the required amount of VERTON 2D, add the required amount of water to the other tank. If oil and/or VERTON 2I (Program B) are needed, add them to the VERTON 2D and mix thoroughly.

If TORDON K is used (Program C) thoroughly mix it with the water. If desired, TORDON K may be introduced from a third container to avoid contamination of the water tank. To form the invert emulsion, the contents of each tank are combined in the proper ratio. Further thickening of the emulsion is obtained from shear produced in the mixing system. To ensure the proper ratio of ingredients as selected from the mixing proportion tables, a metering device from each tank is necessary. It also is essential to start flow of the chemical oil phase prior to introducing the water phase. Be sure to consult manufacturer's "INVERT EMULSION MANUAL" for equipment specifications.

USE PRECAUTIONS

Do not let VERTON 2D or sprays containing it come into contact with vegetables, flowers, grapes, fruit trees, ornamentals, cotton or other desirable plants that are sensitive to 2,4-D. Since even minute quantities may cause injury to such plants during either the growing or dormant periods, applications by either ground or aerial equipment should be made only when there is no hazard from drift. Do not apply by aircraft in the vicinity of cotton, grapes or other desirable 2,4-D susceptible vegetation. At higher temperatures, vaporization may cause injury to susceptible plants growing nearby. Excessive amounts of this product in the soil may temporarily stop seed germination or plant growth. Do not contaminate water used for domestic or irrigation purposes. Do not store near fertilizer, seeds, insecticides or fungicides. To avoid injury to desirable plants, do not store, handle or apply other agricultural chemicals with the same containers or equipment used for VERTON 2D except as specified on label.

Local conditions may affect the use of herbicides. State agricultural experiment station or extension service weed specialists in many states issue recommendations to fit local conditions.

Be sure that use of this product conforms to all applicable regulations.

Do not graze dairy animals on treated areas within 7 days after application of VERTON 2D. Follow grazing restrictions given on labeling for VERTON 2I when Program B is used.

Carefully note the following points:

1. Before using VERTON 2D with VERTON 2I or TORDON K, read and observe all use precautions and statements of hazard given on labels for these products.
2. Even though the inverted emulsion formed by the proper mixing of VERTON 2D is a thicker spray mixture which drifts less than conventional spray mixtures during application, care must still be taken to avoid drift of spray particles onto susceptible plants.
3. Coarse sprays are least likely to drift; therefore, nozzles with large orifices and a low spraying pressure should be used. Keep out of lakes, streams and ponds. This product is toxic to fish. Apply this product only as specified on this label.

Cleaning of Equipment and Disposal of Waste After use, equipment such as tanks, lines, nozzles and containers used in the handling and application of VERTON 2D should be flushed with oil such as kerosene or No. 2 fuel or diesel oil. Dispose of flushing and rinse wastes by burying in non-croplands away from water supplies. Punch holes in empty containers and dispose by burying with wastes.

NOTICE Seller warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

U.S. Patent No. 3,159,430

D879

THE DOW CHEMICAL COMPANY

AND SUBSIDIARIES
MIDLAND, MICHIGAN 48849, USA; MORGES, SWITZERLAND; HONG KONG
CORAL GABLES, FLORIDA 33134, USA; SARNIA, ONTARIO, CANADA
Trademark of THE DOW CHEMICAL COMPANY

**NET
CONTENTS**

Undesirable Broadleaf to Minimize Spray Drift.

Communication lines, pipelines, railroads
and areas (for conifer release and site
for agricultural and industrial non-

DIRECTIONS

VERTON 2D is designed for use as a
spray emulsion to minimize spray drift
used in a single spray tank or flash
separate tanks. See label directions
for spray for details.

VERTON 2D using either ground or
aerial application. If the product is batch mixed, equip
with high viscosity (thickened) sprays must
consult information on both batch and flash
mixing equipment consult the "INVERT
EMULSION MANUAL" available from The Dow Chemical

used alone (Program A) or in com-
bination with VERTON 2I (Program B) or TORDON K
to select the best spray program to use
on brush species to be controlled.

Use spray program that provides a broader
coverage than needed for practical vegetation.

Application is well developed and weeds
freely. With good growing conditions
application can be made up to 2 or
3 times. Control may be less during
moisture is deficient.

SPRAY Invert emulsions containing
VERTON 2D in a single tank (Batch Mixing) or
flash mixing. Refer to the following directions
on the "INVERT EMULSION MANUAL" (The Dow
Chemical Company) for further

IL, 1978.

ED TO REFLECT
. 6.D01-5.

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PROGRAM A — (VERTON 2D Herbicide)

Species Controlled: For control of broadleaf weeds such as

- | | | |
|-------------------------|----------------------|--------------------|
| bitterweed | halogeton | plantain |
| blueweed, Texas | hemp | radish, wild |
| broomweed | ironweed | ragweed |
| buckwheat, wild | kochia | ragwort, tansy |
| burdock | lambsquarters | shepherdspurse |
| cocklebur | lettuce, prickly | snakeweed |
| cotton | mallow | sneezeweed, bitter |
| dandelion | marshelder | storkbit, yellow |
| deck | morningglory, annual | sunflower |
| dogfennel | mustard | thistle, musk |
| eveningprimrose, common | nightshade | thistle, Russian |
| fanweed | onion, wild | velvetleaf |
| fiddleneck | pepperweed | vetch |
| garlic, wild | pigweed | |

and certain woody species including

- | | | |
|-----------|-------------------|-----------------|
| elder | chemise | rabbitbrush |
| ospen | coastal sage | sagebrush, big |
| birch | hazel | sagebrush, sand |
| buckbrush | manzanita | sumac |
| cowhemp | oak, sand shunery | willow |

most difficult to control

Amounts to Use: Apply VERTON 2D at the rate of 0.5 to 2 gallons per acre using enough spray volume to provide adequate coverage, usually 15 to 25 gallons of spray mixture per acre. The 0.5 gallon per acre rate will provide temporary suppression of weed growth and may require re-treatment. Use the higher rates and spray volumes for the most difficult to control species. For conifer release consult your State or Regional Forester for recommendations to fit local conditions.

Mixing Instructions: Consult label directions under How to Prepare the Spray and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of spray based on the pounds of active ingredient and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray ¹		
Pounds of 2,4-D Acid Equivalent	Total Gallons of Spray	VERTON 2D	Oil	Water
1	15	1.7	6.7	90.0
	20	2.3	9.0	90.0
	25	3.0	12.0	90.0
2	15	6.7	3.3	90.0
	20	9.0	5.0	90.0
	25	12.0	6.7	90.0
3	15	10.0	5.0	90.0
	20	13.3	6.7	90.0
	25	16.7	10.0	90.0
4	15	13.3	6.7	86.7
	20	17.8	9.0	83.4
	25	21.3	12.0	80.0

¹The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturers' INVERT EMULSION MANUAL for additional application to water phase ratios.

VERTON 2D

PROGRAM B — (VERTON 2D Herbicide plus VERTON 2T Herbicide)

Species Controlled: Include those listed under Program A plus the following

- | | |
|-------------------------------------|-------------|
| ash | honeysuckle |
| brambles (raspberry and blackberry) | locust |
| broom, Scotch | madrone |
| cherry | maple |
| chokecherry | oak |
| elder | sageorange |
| elm | poison ivy |
| grepe | poison oak |
| gum | poplar |
| hawthorn | salmonberry |
| hickory | sassafras |
| | sweetgum |

most difficult to control

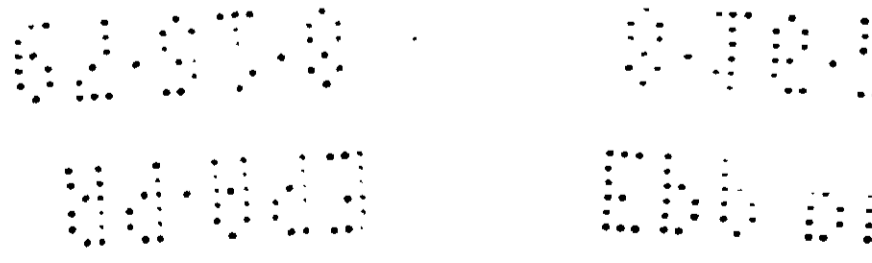
Amounts to Use: Apply VERTON 2D at the rate of 0.25 to 3 gallons per acre with an equal amount of VERTON 2T using enough spray volume to provide adequate coverage, usually 15 to 30 gallons of spray mixture per acre. The lowest rate will provide temporary suppression of weed growth and may require re-treatment. Use the higher rates for most difficult to control species. For rangeland and conifer release do not exceed 1 gallon each of VERTON 2D and VERTON 2T per acre. Consult your State or Regional Forest or Range Specialist for recommendations to fit local conditions.

Mixing Instructions: Consult label directions under How to Prepare the Spray and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of spray based on the pounds of active ingredients and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray ¹			
Pounds of 2,4-D + 2,4,5-T Acid Equivalent	Total Gallons of Spray	VERTON 2D	VERTON 2T	Oil	Water
0.5 - 0.5	15	1.7	1.7	6.6	90.0
	20	2.3	2.3	8.8	90.0
	25	3.0	3.0	11.0	90.0
1 - 1	15	6.7	6.7	16.6	86.6
	20	9.0	9.0	22.2	83.4
	25	12.0	12.0	28.8	80.0
2 - 2	15	13.3	13.3	33.3	80.0
	20	17.8	17.8	44.4	75.0
	25	21.3	21.3	55.6	70.0
3 - 3	15	20.0	20.0	40.0	60.0
	20	26.7	26.7	53.3	53.3
	25	33.3	33.3	66.7	46.7
4 - 4	15	26.7	26.7	53.3	46.7
	20	35.6	35.6	71.1	38.9
	25	44.4	44.4	88.9	31.1
5 - 5	15	33.3	33.3	66.7	33.3
	20	44.4	44.4	88.9	25.6
	25	55.6	55.6	111.1	17.9
6 - 6	15	40.0	40.0	80.0	20.0
	20	53.3	53.3	106.7	13.3
	25	66.7	66.7	133.3	6.7

¹The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturers' INVERT EMULSION MANUAL for additional application to water phase ratios.

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SPECIMEN LABEL
(BACK)
REDUCED TO 82%

PROGRAM B—(VERTON 2D Herbicide plus VERTON 2T Herbicide)

Species Controlled: Include those listed under Program A plus the following:

- | | |
|-------------------------------------|--------------|
| ash | honeysuckle |
| brambles (raspberry and blackberry) | locust |
| broom, Scotch | madrone |
| cherry | maple |
| chokecherry | oak |
| elder | osage/orange |
| elm | poison ivy |
| grape | poison oak |
| gum | poplar |
| hawthorn | salmonberry |
| hickory | sassafras |
| | sweetgum |

most difficult to control

Amounts to Use: Apply VERTON 2D at the rate of 0.25 to 3 gallons per acre with an equal amount of VERTON 2T using enough spray volume to provide adequate coverage, usually 15 to 30 gallons of spray mixture per acre. The lowest rate will provide temporary suppression of weed growth and may require re-treatment. Use the higher rates for most difficult to control species. For rangeland and conifer release do not exceed 1 gallon each of VERTON 2D and VERTON 2T per acre. Consult your State or Regional Forest or Range Specialist for recommendations to fit local conditions.

Mixing Instructions: Consult label directions under How to Prepare the Spray and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of spray based on the pounds of active ingredients and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray*			
Pounds of 2,4-D + 2,4,5-T Acid Equivalent	Total Gallons of Spray	VERTON 2D	VERTON 2T	Oil	Water
0.5 - 0.5	15	1.7	1.7	6.6	90.0
1 - 1	15	3.3	3.3	3.3	90.1
	20	2.5	2.5	5.0	90.0
	25	2.6	2.0	6.0	90.0
2 - 2	15	6.7	6.7		86.6
	20	5.0	5.0		90.0
	25	4.0	4.0	2.0	90.0
3 - 3	15	10.0	10.0		80.0
	20	7.5	7.5		85.0
	25	6.0	6.0		88.0
4 - 4	20	10.0	10.0		80.0
	25	8.0	8.0		84.0
	30	6.7	6.7		86.6
5 - 5	25	10.0	10.0		80.0
	30	8.3	8.3		83.4
6 - 6	30	10.0	10.0		80.0

*The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturer's INVERT EMULSION MANUAL for additional chemical oil to water phase ratios.

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D879

PROGRAM C—(VERTON 2D Herbicide plus TORDON K Herbicide)

Species Controlled: Include those listed under Programs A and B plus the following annual and perennial broadleaf weeds:

- | | | |
|---------------------------------|-------------------|------------------|
| bindweed, field | hennettle | skeletonweed |
| bouncingbet | knopweed, diffuse | sawthistle |
| bursage | knopweed, Russian | spruce, leafy |
| carrot, wild | | sweetclover |
| chicory | kudzu | thistle, Canada |
| clever | milweed | toadflax, |
| fleabane | mullein | dalmatian |
| goldenrod | parrot, wild | toadflax, yellow |
| and unclassified woody species: | | |
| bracken fern | fir, Douglas | pine |
| butterbrush | gum | sourwood |
| cedar | hemlock | spruce |
| dogwood | persimmon | trumpet creeper |
| fir, balsam | | |

The use of TORDON K with VERTON 2D provides better control of rootsuckering species such as aspen, locust, sassafras and sumac than can be obtained using spray Program A or B. Note: Do not use this program on rangeland or for conifer release.

Amounts to Use: Always use VERTON 2D with TORDON K in the ratio of 4 parts VERTON 2D and 1 part TORDON K. Apply each product at the following rates depending on weed and brush species to be controlled:

For annual broadleaf weeds use 2 quarts of VERTON 2D and 1 pint of TORDON K and apply in enough spray volume to obtain adequate coverage, usually 15 to 20 gallons of spray mixture per acre.

For perennial broadleaf weeds and susceptible woody species use 1 to 3 gallons of VERTON 2D and 1 to 3 quarts of TORDON K. Apply in enough spray volume for adequate coverage, usually 15 to 25 gallons of spray mixture per acre.

For difficult to control woody species, such as ash, balsam fir, black spruce, bracken fern, eastern red cedar, gum, hickory, maple, oaks, salmonberry and sourwood, use 3 to 4 gallons of VERTON 2D and 3 to 4 quarts of TORDON K and apply in enough total spray volume to obtain adequate coverage, usually 20 to 25 gallons per acre.

NOTE: Always use VERTON 2D with TORDON K in a ratio of 4 parts to 1 respectively. Do not mix VERTON 2D directly with TORDON K; see How to Prepare the Spray for proper mixing procedure.

Mixing Instructions: Consult label directions under How to Prepare the Spray and use the table below as a guide to the amount of each spray ingredient needed to prepare 100 gallon batches of total spray based on the pounds of active ingredients and total spray volume desired per acre.

Rate per Acre		Gallons of Each Ingredient Needed to Make 100 Gallons Spray*			
Pounds of 2,4-D + 2,4,5-T Acid Equivalent	Total Gallons of Spray	VERTON 2D	Oil	TORDON K	Water
1 - 0.25	15	3.3	6.7	0.8	89.2
	20	2.5	7.5	0.6	89.4
2 - 0.5	15	6.7	3.3	1.7	89.3
	20	5.0	5.0	1.3	88.7
	25	4.0	6.0	1.0	89.0
3 - 0.75	15	10.0		2.4	87.5
	20	7.5	2.5	1.9	88.1
	25	6.0	4.0	1.5	88.5
4 - 1.0	15	13.3		3.3	83.4
	20	10.0		2.5	87.5
	25	8.0	2.0	2.0	88.0
5 - 1.25	15	16.7		4.2	79.1
	20	12.5		3.1	84.4
	25	10.0		2.5	87.5
6 - 1.5	15	20.0		5.0	75.0
	20	15.0		3.7	81.3
	25	12.0		3.0	85.0
7 - 1.75	20	17.5		4.4	78.1
	25	14.0		3.5	82.5
8 - 2.0	20	20.0		5.0	75.0
	25	16.0		4.0	80.0

*The amounts of each component may be proportionally increased or decreased if larger or smaller batches are needed. Consult manufacturer's INVERT EMULSION MANUAL for additional chemical oil to water, TORDON K phase ratios.

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