

Exhibit 57

EARLY PG KNOW-
LEDGE

Doyle's EXHIBIT 4-A thru 4-I FOR I.B.
DEPO. OF WABER
DATE 10-27-03 Pgs. 51

7:10

CHEVRON CHEMICAL COMPANY

ORTHO DIVISION

Richmond, California

July 22, 1966

TO: ALL FIELD RESEARCH & SERVICES PERSONNEL

The attached information describing the hazards and safe handling procedures for ORTHO Paraquat and Diquat are for your guidance.

Included as attachments are the following:

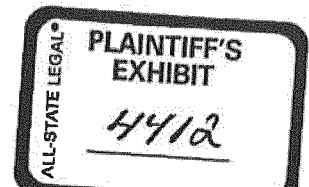
1. "Field Hazards of Paraquat and Diquat" - A confidential Summary for Field Research and Services personnel on safety and handling of Paraquat and Diquat. This is for your information only.
2. "Paraquat and Diquat" - A letter for all Marketing personnel on safe handling. This is Marketing's instructions to their personnel and provides the official communication to the public.
3. Copies of medical leaflets on Paraquat and Diquat for your reference and for reference to physicians and Poison Control Centers. These will be distributed from Richmond and you may obtain additional copies upon request.
4. Paraquat label with Warnings - Diquat is identical.

M. A. Taland
M. A. TALAND

TWR:js

Attachments

CHEV 18318



E> Case ID: 220300429
Control No.: 26064959

FIELD HAZARDS OF PARAQUAT AND DIQUAT

ORTHO Paraquat and Diquat can safely be used in the weed control and desiccation field if all of the warning statements on the label are conscientiously followed.

Paraquat and Diquat are different from other herbicides that do not carry the skull and crossbones and poison label:

Oral ingestion of Paraquat and Diquat can be expected to be fatal; the only way to avoid fatal accidents is to avoid drinking them. Never drink from a Paraquat or Diquat container regardless of how thoroughly it may have been washed. Never put Paraquat or Diquat in other bottles or cans. Several people throughout the world have been killed by drinking Paraquat from unlabeled and mislabeled bottles. The public must be told these facts. If accidentally swallowed, vomiting should be induced at once. Get medical attention as soon as possible.

When spray mist containing Paraquat or Diquat is inhaled severe irritation to nose, throat and lungs can be expected and can cause nose bleeding. Repeated exposure can be cumulative. Symptoms of lung damage are often delayed. No effective antidote is known. To avoid injury to the users they must be informed that inhalation of spray

Undiluted Paraquat or Diquat will cause skin burns and rash, and damage to finger or toenails. Paraquat and Diquat can be absorbed through the skin and can cause delayed systemic reactions, including damage to the lungs. Label cautions of wearing waterproof gloves and clothing are necessary for safe handling; this must always be emphasized to the user. If accidentally spilled on the skin, wash with soap and water immediately. Contaminated clothing must be removed at once and laundered before reusing. Contaminated shoes should be discarded.

Diluted Paraquat or Diquat presents a greater potential hazard than some herbicides in that the toxic effects are cumulative and delayed. Paraquat and Diquat solutions do not stink, don't cause immediate burning, or other warning symptoms yet cause delayed effects, such as lung damage, nausea, lassitude, skin rash and abdominal disorders. The user must wear clean clothing and avoid prolonged and repeated skin contact to avoid sickness and damage. After any exposure wash thoroughly with soap and water.

When label warnings are followed Paraquat or Diquat can and is being used safely around the world. The public (sales personnel, customers, dealers, and government cooperators) should be informed how to handle these chemicals safely. If not, incidents of human toxicity can be expected to occur and an excellent product will get a bad name and the good name of Ortho will be harmed.

CHEV 18319

The label warnings mean what they say. Do not compare Paraquat or Diquat label warnings to those of other pesticide labels. These are different types of chemicals.

CHEVRON CHEMICAL COMPANY

ORTHO DIVISION

San Francisco, California
July 25, 1966

DIQUAT AND PARAQUAT

ALL MARKETING PERSONNEL:

The following material has been prepared for your information and guidance in the sales, distribution and use of the above two products. As in the handling of all similar products, care and close adherence to the label instructions and warnings are vitally important. In line with your regular practice in recommending Ortho products, the warnings should also be stressed to your customers.

Even though Diquat and Paraquat do not carry the skull and crossbones and poison label of normal pesticides, they are hazardous and the label on each contains all the usual precautions:

1. Wash & destroy container when empty - never re-use.
2. Do not inhale.
3. Do not get on skin.
4. Do not take internally.
5. Keep out of reach of children.

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Note that both labels contain a "warning" about the effects following an exposure to these products. Medical attention is recommended following exposure. It is vital to study and know and practice the warnings instructions on the label as its toxic effects are cumulative and delayed. Paraquat solutions are "different" in that they do not have the usual warning symptom of an unusual smell or immediate burning.

There is at this time no known effective antidote to Paraquat.

Diquat and Paraquat may be used safely as long as all the regular precautions and safe handling practices outlined on the label are followed by you and all users of the product.

We recommend that contaminated clothing should be rewashed before using and contaminated shoes discarded.

We repeat that all precautions and label warnings on Diquat and Paraquat should be emphasized in the handling and use of these products.

July 25, 1966

Be sure and know the label contents on Paraquat or Diquat.

Be safe and follow all the label warnings!

Be smart and teach the public how to use these products safely.

The current label warning and text is as follows and should be adhered to:



DO NOT INHALE

DO NOT GET ON SKIN

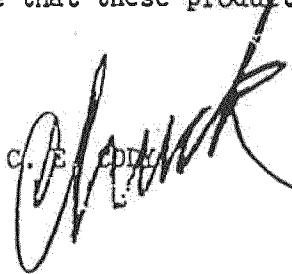
DO NOT TAKE INTERNALLY

KEEP OUT OF REACH OF CHILDREN

WARNING: May be fatal if swallowed, inhaled or absorbed through skin. Prolonged skin contact will cause severe irritation. Do not get concentrated material on skin, eyes or clothing. Repeated contact with skin may increase danger of absorption. Symptoms of injury may be delayed. In case of accidental skin contact, wash immediately with water; remove clothing and wash skin where necessary. For eyes, wash thoroughly with water and get medical attention. Wear face shield rubber gloves and rubber apron when handling concentrate. Do not breathe spray mist in order to avoid nasal, throat and respiratory tract irritation. When spraying or when contacting sprayed vegetation wet with spray, dew or rain wear waterproof footwear and clothing. Do not contaminate feed, foodstuffs or drinking water.

Diquat and Paraquat are truly two outstanding products and with additional clearances, if properly marketed, should contribute a substantial dollar volume of sales and profit to the company.

It behooves each one of us to make sure that these products are properly sold, handled and used.

C. E. COOK


CHEV 18321

PARAQUAT

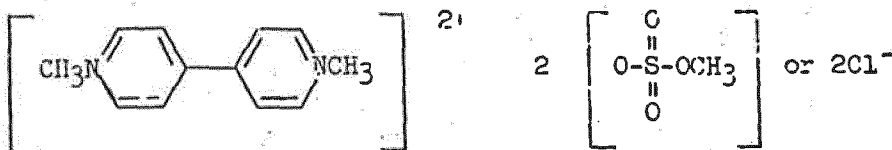
Chemical Name

1,1'-dimethyl-4,4'-bipyridinium bis (methylsulfate) or
1,1'-dimethyl-4,4'-bipyridinium dichloride

Empirical Formula

Cation: $C_{12}H_{14}N_2$, salt: $C_{14}H_{20}O_8N_2S_2$ or $C_{12}H_{14}N_2Cl_2$

Structural Formula



Formulation - waterbase concentrate containing 2 lbs. active cation per gallon. Soluble in all proportions in water.

Uses

Paraquat is a quick-acting herbicide and plant desiccant.

Routes of Absorption

Paraquat may be absorbed following oral ingestion, dermal exposure, or inhalation of spray mists.

Pharmacology

The main pharmacologic activity of Paraquat appears to be due to its ability to precipitate or denature protein or form complexes with it.

The pharmacodynamic effects of Paraquat have not been determined.

Dangerous. Acute and Repeated Doses

The amount of Paraquat ion which could cause death in man following a single oral dose has been estimated as 2 to 6 grams. Fatalities have been reported in which the amount ingested ranged from 15 to 100 grams. Recovery has been reported in two cases in which the amounts taken were estimated to be 0.7 and 1.4 grams. Among different species of experimental animals tested, there is a wide variation in sensitivity to this material. The acute oral LD₅₀'s in

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DIQUAT

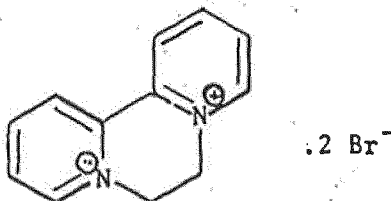
Chemical Name

6,7-dihydrodipyrido (1,2-a.2', 1'-c) pyrazidinium dibromide.

Empirical Formula

Cation: $C_{12}H_{12}Br_2N_2$

Structural Formula



Formulation

Water base concentrate containing 2 lbs. active cation per gal.

Uses

Diquat is a quick acting herbicide and plant desiccant.

Routes of Absorption

Diquat may be absorbed following oral ingestion, dermal exposure or inhalation of spray mists.

Pharmacology

The main pharmacologic activity appears to be due to its ability to precipitate or denature protein or form complexes with it. The pharmacodynamic effects of Diquat have not been determined.

Dangerous, Acute and Repeated Doses

The amount of Diquat ion which would cause death in man following a single oral dose has been estimated as 6 to 12 grams. No fatalities have been reported from ingestion of Diquat.

Among different species of experimental animals tested, there is a wide variation in sensitivity to this material. The acute oral LD₅₀'s in mg./kg. for the various species have been estimated as follows: rabbit 190; dog above 200; cow 70; rat 400-440, and chicken 400-800.

Based on studies in experimental animals, it is expected that symptoms of poisoning might be seen in man following inhalation of spray mists or dermal contact with Diquat solutions.

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mg/kg for the various species have been estimated as follows: guinea pig, 30; cat, 35; sheep, 40; cow, 70; rat, 120-150; and chicken, 262. Based on studies in experimental animals, it is expected that symptoms of poisoning might be seen in man following inhalation of spray mists or dermal contact with Paraquat solutions.

Signs and Symptoms of Poisoning in Man

Ingestion of concentrated solutions of Paraquat will cause severe irritation to the lining of the mouth, pharynx, esophagus and stomach. This may be followed by ulceration of the affected tissues and perforation of the esophagus. There is usually recurrent vomiting and after large doses, restlessness and hyperexcitability. Paraquat has a specific and delayed effect upon the lungs. In four of six fatal cases, the lung damage was characterized by alveolar block similar to that seen following interstitial pneumonia. Delayed deaths due to these pulmonary changes have been reported to occur as long as 20 days after ingestion of a fatal dose. Skin contact with the concentrate may cause severe skin irritation and burning. Nail damage from direct contact has been reported which is characterized by disturbed growth, white opaque areas and cracking with subsequent shedding of the nail which is replaced by normal growth. Contact with dilute liquid or dust formulations of Paraquat may result in skin and/or eye irritation. These effects are reversible. Exposure to spray mists may cause the following symptoms: skin irritation, nasal bleeding, irritation and inflammation of the mouth and upper respiratory tract, cough, chest pain, asthmatic attacks, frontal headache, vomiting and pain and swelling of the joints.

Treatment

There is no known antidote for Paraquat poisoning. If Paraquat has been swallowed, vomiting should be induced if it has not already occurred. The stomach should be lavaged with a dilute soap solution using care to avoid possible esophageal injury. Give general supportive measures and sedation for hyperexcitability and shock. Maintain high fluid intake and induce diuresis to aid excretion. Keep the patient quiet. Urine samples should be taken periodically, particularly in the 24 to 48-hour period following exposure. Blood samples may also be of value. If analysis of urine shows appreciable quantities of Paraquat, keep the patient at rest and under medical observation for at least two weeks. Give oxygen therapy if dyspnea or cyanosis develops. Animal experiments have indicated that large doses of cortisone may prolong survival. However, there is no evidence for human administration to date.

In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water. Unless dermal exposure has been very large, the local effects of Paraquat require no special treatment beyond the avoidance of further exposure. Healing time of affected skin may be somewhat prolonged. For skin rash, general skin care is suggested. If the skin exposure is massive or prolonged, and the patient develops symptoms of poisoning similar to those seen following ingestion may ensue. In this case, treatment would be similar to that recommended for oral ingestion.

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Signs and Symptoms of Poisoning in Man

Ingestion of concentrated solutions of Diquat will cause severe irritation to the lining of the mouth, pharynx, esophagus and stomach. This may be followed by ulceration of the affected tissues and perforation of the esophagus. There is usually recurrent vomiting and, after large doses, restlessness and hyper-excitability. Diquat may have a specific and delayed effect upon the lungs. Skin contact with the concentrate may cause severe skin irritation and burning. Nail damage from direct contact has been reported which is characterized by disturbed growth, white opaque areas and cracking with subsequent shedding of the nail which is replaced by normal growth. Contact with dilute liquid or dust formulations of Diquat may result in skin and/or eye irritation. These effects are reversible. Exposure to spray mists may cause the following symptoms: skin irritation, nasal bleeding, irritation and inflammation of the mouth and upper respiratory tract, cough, chest pain, asthmatic attacks, frontal headache, vomiting and pain and swelling of the joints.

Treatment

There is no known antidote for Diquat poisoning. If Diquat has been swallowed, vomiting should be induced if it has not already occurred. The stomach should be lavaged with a dilute soap solution using care to avoid possible esophageal injury. Give general supportive measures and sedation for hyper-excitability and shock. Maintain high fluid intake and induce diuresis to aid excretion. Keep the patient quiet. Urine samples should be taken periodically, particularly in the 24 to 48 hour period following exposure. Blood samples may also be of value. If analysis of urine shows appreciable quantities of Diquat, keep the patient at rest and under medical observation for at least two weeks. Give oxygen therapy if dyspnea or cyanosis develops. Animal experiments have indicated that large doses of cortisone may prolong survival. However, there is no evidence for human administration to date.

In case of skin contact, remove contaminated clothing and wash skin thoroughly with soap and water. Unless dermal exposure has been very large, the local effects of Diquat require no special treatment beyond the avoidance of further exposure. Healing time of affected skin may be somewhat prolonged. For skin rash, general therapy is suggested. If the skin exposure is massive or prolonged, animal studies have suggested that symptoms of poisoning similar to those seen following ingestion may ensue. In this case, treatment would be similar to that recommended for oral ingestion.

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ORTHO®

FOR EXPERIMENTAL USE ONLY

NET CONTENTS

LIQUID

Ingredient	By Wt.
Paraquat bis (methylsulfate)-[1,1'-dimethyl-4,4'-bipyridinium bis (methylsulfate)]	42%
Inert Ingredients	58%
Contains 2 lbs. Paraquat cation per gallon	
U. S. Pat. No. 2,972,528	

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH CAUTIONS, WARNINGS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS. TIMING AND DOSAGE MAY VARY AS A CONSEQUENCE OF LOCAL WEATHER OR CONDITIONS; WE RECOMMEND REFERENCE TO AGRICULTURAL EXPERIMENT STATIONS ON SPECIFIC USAGE.

Store At Temperatures Above 32° F.

WASH AND DESTROY CONTAINER WHEN EMPTY. NEVER RE-USE.

DIRECTIONS

COTTON: Desiccation (some defoliation may occur)—1 to 2 pts. per acre. When foliage is dense, use the 2 pint rate or 2 applications of 1 pint if necessary. Apply when 80 to 95% of the bolls are open and the remaining bolls to be harvested are mature. Immature bolls may be burned and development inhibited. Do not pasture lactating dairy animals. Do not pasture livestock in treated fields sooner than 10 days after treatment. Remove livestock from Paraquat treated area at least 5 days before harvesting. Defoliation (some desiccation may occur)—½ pt. per



DO NOT INHALE
DO NOT GET ON SKIN
DO NOT TAKE INTERNALLY

KEEP OUT OF REACH OF CHILDREN

WARNING: May be fatal if swallowed, inhaled or absorbed through skin. Prolonged skin contact will cause severe irritation. Do not get concentrate material on skin, eyes or clothing. Repeated contact with skin may increase danger of absorption. Symptoms of injury may be delayed. In case of accidental skin contact, wash immediately with water, remove clothing and wash skin where necessary. For eyes, wash thoroughly with water and get medical attention. Wear face shield, rubber gloves and rubber apron when handling concentrate. Do not breathe spray mist in order to avoid nasal, throat and respiratory tract irritation. When spraying or when contacting sprayed vegetation wet with spray, dew or rain wear waterproof footwear and clothing. Do not contaminate feed, foodstuffs or drinking water.

acre in combination with 1 pint (0.75 lbs. active) of phosphate defoliant or 1 gal. (2.0 lbs. active) of chlorate defoliant per acre. Apply when 60 to 70% or more of the bolls are open and the remaining bolls to be harvested are mature. Immature bolls may be burned and development inhibited. When combined with phosphate defoliants, observe livestock cautions on phosphate defoliant labels. When combined with chlorate defoliants, do not pasture cattle or other livestock on treated areas or feed treated foliage or seeds. Aerial Application—Apply 3 to 10 gals. spray mix per acre. In California and Arizona use the higher gallonage. Do not apply during periods of thermal inversion to avoid drift. Ground Application—Apply 10 to 30 gals. spray mix per acre. Arrange nozzles to provide thorough coverage of the foliage. Use a non-ionic surfactant at 1 pt. per 100 gals. spray mix.

Do not apply ORTHO Paraquat to cotton within 3 days before harvest. Repeat application if necessary. Do not make more than 2 applications or exceed a total of 2 pints of ORTHO Paraquat per acre.

POTATO VINES: PREHARVEST VINE KILLING—1 to 2 pts. per acre. Use the 2 pint rate or 2 applications of 1 pint when vine growth is dense and vigorous or where quick vine kill is desired. Use the 1 pint rate on maturing vines. Apply in 50 to 100 gal. water per acre with thorough coverage. Add 8 ounces of ORTHO X-77 Spreader per 100 gals. water. Do not make more than 2 applications with a minimum of 5 days between applications. Do not apply ORTHO Paraquat to potatoes within 3 days before harvest. Do not pasture livestock in treated potato fields. To avoid injury to subsequent crops, do not use on muck or peat soils.

NOTE: Do not use around home gardens or other areas likely to be contacted by children or pets. Rinse all spray equipment thoroughly with water after use. Do not apply under conditions involving possible drift to food, forage or other plantings that might be damaged or the crops thereof rendered unfit for use or consumption.

NOTICE ON CONDITIONS OF SALE: 1. Chevron Chemical Company (Chevron) warrants that this material conforms to chemical description on the label and is reasonably fit for use as directed hereon. Chevron neither makes, nor authorizes agent or representative to make, any other warranty, guaranty or representation, express or implied, concerning this material. 2. Because critical, unforeseeable factors beyond Chevron's control prevent it from eliminating all risks in connection with use of chemicals even though reasonably fit for such use, buyer and user acknowledge and assume all risks and liability (except those assumed by Chevron under 1 above) resulting from handling, storage, and use of this material. These risks include, but are not limited to, damage to plants, crops and animals to which the material is applied, failure to control pests, damage caused by drift to other plants or crops, and personal injury. Buyer, user accept and use this material on these conditions, whether or not such use is in accordance with directions.

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