



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

February 3, 2009

MEMORANDUM

SUBJECT: Updated Review of Sulfuryl Fluoride Incident Reports

FROM: Monica Hawkins, M.P.H., Environmental Health Scientist
Toxicology and Epidemiology Branch
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Jessie Cordova, Information Technology Specialist
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THRU: Mary Manibusan, Branch Chief
Toxicology and Epidemiology Branch
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TO: Dirk Helder, CRM
Special Review and Reregistration Division (7508P)

BACKGROUND

The OPP Incident Data System (IDS) was consulted for poisoning incident data on the active ingredient sulfuryl fluoride. The purpose of the database search is to identify potential patterns on the extent and severity of the health effects attributed to sulfuryl fluoride exposure. The IDS includes reports of incidents from various sources, including mandatory Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Section 6 (a) (2) reports from registrants, other federal and state health and environmental agencies and individual consumers. The following databases were not searched for poisoning incident data: the American Association of Poison Control Centers Toxic Exposure Surveillance System (TESS), the California Pesticide Illness Surveillance Program, and the National Institute of Occupational Safety and Health's Sentinel Event Notification System for Occupational Risks (NIOSH SENSOR). The EPA is supplying the following incident report to fulfill our requirement to docket summaries of incident data that were reported to the Agency. This report represents 71 incidents occurring in the United States from 2002 to the present for the single chemical only.

The OPP Incident Data System (IDS) is a database that includes reports of incidents from various sources, including mandatory Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Section 6(a) (2) reports from registrants, other federal and state health and environmental agencies and individual consumers. The IDS has been in existence since 1992. Reports submitted to the Incident Data System represent anecdotal reports or allegations only, unless otherwise stated in this report. Typically, OPP does not draw conclusions implicating the pesticide as a cause of any of the reported health effects. Nevertheless, sometime with enough cases and/or documentation, patterns and risk mitigation measures may be suggested.

Incident information is mainly self-reported and therefore, generally speaking, neither exposure to a pesticide or reported symptom (or the connection between the two) is validated. However, incident information is an important feedback loop to the Agency – incidents of severe outcome, or other clear patterns or trends can signal the Agency to further investigate a particular chemical or product.

The evaluation of incident data for sulfuryl fluoride chemicals has reported only 71 number of incidents, symptoms appear generic and not confirmed to be related to exposure, there is no clear evidence of a trend or exposure pattern. At this time, the current IDS incident data alone do not support additional risk mitigation actions.

IDS Report

2/3/09

Chemical: Sulfuryl Fluoride**078003****Human Incidents**

Incident Number		Incident Date	Product Name	Registration Number	City	State	Exposure Type*	Incident Description
012555	008	01-Jan-02	VIKANE	06271900004	TAMPA	FL	HB	Unknown Adult (18-64 years old) Male reported Mood Swings, Personality Changes
012725	001	21-Mar-02	VIKANE GAS FUMIGANT?	06271900004	HILO	HI	HA	A 42 year old Male reported Respiratory Secretions, Psychosis
012729	009	25-Mar-02	VIKANE	06271900004		FL	HC	Unknown Adult (18-64 years old) Female reported Pruritus, Rash, Oral Irritation, Irritation/Pain, Hives/Welts, Throat Irritation
012729	011	11-Mar-02	VIKANE	06271900004	VISTA	FL	HD	Unknown Adult (18-64 years old) Male reported Irritation/Pain, Lacrimation, Coughing/Choking
012855	008	11-Apr-02	VIKANE	06271900004	HALEIWA	HI	HC	Unknown Adult (18-64 years old) Male reported Irritation/Pain, Drowsiness/Lethargy, Weakness, Tremors, Confusion
012855	009	03-Mar-02	VIKANE	06271900004		FL	HC	A 44 year old Female reported Slurred Speech, Erythema/Flushed, Abdominal Pain, Melena, Respiratory Irritation, Harsh Voice, Confusion
013059	007	15-May-02	VIKANE	06271900004	DOWNING	CA	HC	A 46 year old Male reported Hives/Welts
013059	011	01-Apr-02	VIKANE* GAS FUMIGANT	06271900004	CARMEL	CA	HC	Unknown Adult (18-64 years old) Female reported Chest Pain, Burning Sensation in Lungs, Sore Throat, Shortness of Breath
013241	004	24-Jul-02	VIKANE GAS FUMIGANT	06271900004	FT. LAUDERDALE	FL	HC	Unknown Adult (18-64 years old) Male reported Tingling

IDS Report

2/3/09

Chemical: Sulfuryl Fluoride**078003****Human Incidents**

Incident Number		Incident Date	Product Name	Registration Number	City	State	Exposure Type*	Incident Description
013241	007	28-Feb-02	VIKANE	06271900004	BOYNTON BEACH	FL	HC	Unknown Adult (18-64 years old) Female reported Disorientation, Blood in Stool, Upset Stomach
013400	001	03-Jan-02	VIKANE FUMIGANT	06271900004	LATON	CA	HA	Unknown Adult (18-64 years old) Male and Daughter reported Eye, Throat Irritation
013410	006	04-Oct-02	VIKANE	06271900004	GLENDORA	CA	HC	Unknown Adult (18-64 years old) Male was exposed. No Symptoms Described.
013509	010	20-Oct-02	VIKANE	06271900004	SAN DIEGO	CA	HC	A 50 year old Male reported Malaise, Confusion, Dizziness/Vertigo, Headache
013509	020	10-Oct-02	VIKANE	06271900004	LAKE WORTH	FL	HC	Unknown Adult (18-64 years old) Female reported Ocular Irritation/Pain, Hives/Welts, Oral Irritation
013669	004	07-Dec-02	VIKANE	06271900004	HOLLYWOOD	FL	HC	A 52 year old Female reported Ocular Irritation/Pain, Lacrimation, Respiratory Irritation, Shortness of Breath, Wheezing
013826	004	09-Jan-03	VIKANE	06271900004		CA	HC	Unknown Adult (18-65 years old) Female reported Hives/Welts
013826	007	15-Feb-03	VIKANE	06271900004	EL CAJON	CA	HC	A 22 year old Male reported Seizure (single)
014178	012	09-Mar-03	VIKANE GAS FUMIGANT	06271900004	INGLEWOOD	CA	HC	A 50 year old Male reported Nausea, Agitation, Confusion
014266	016	26-Jul-03	VIKANE	06271900004	SUNNYVALE	CA	HC	Unknown Adult (18-64 years old) Female reported Dizziness, Shortness of Breath

IDS Report

2/3/09

Chemical: Sulfuryl Fluoride

078003

Human Incidents

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014266	017	19-Jul-02	VIKANE	06271900004	SAN LUIS OBISPO	CA	HC	A 50 year old Male reported Nausea, Coughing, Headache, Chest Pain, Anxiety, Rapid Breathing, Confusion, Dizziness
014419	012	08-Aug-03	VIKANE	06271900004	SANTA BARBARA	CA	HC	A 79 year old Male reported Anorexia, Coughing/Choking, Nausea
014500	006	22-Jul-03	VIKANE	06271900004	FT. LAUDERDALE	FL	HC	Unknown Adult (18-64 years old) Father reported Ocular Irritation/Pain; 3 month old Daughter reported Diarrhea
014500	011	01-Sep-03	VIKANE	06271900004		FL	HC	A 21 year old Male reported Difficulty Breathing
014561	004	23-Sep-03	VIKANE	06271900004	FRESNO	CA	HC	Unknown Adult (18-64 years old) Female reported Chest Pain
014561	010	14-Oct-03	VIKANE	06271900004	HONOLULU	HI	HC	Unknown Adult (18-64 years old) Male reported Throat Irritation, Ocular Irritation/Pain, Coughing/Choking, Chest Numbness
014767	004	30-Oct-02	VIKANE	06271900004	MACASO	CA	HC	A 34 year old Female reported Dizziness/Vertigo, Confusion, Headache, Shortness of Breath
014876	003	06-Jul-03	VIKANE	06271900004	HONOLULU	HI	HC	Unknown Adult (18-64 years old) Female reported Burning Eyes, Throat
014959	007	01-Feb-04	VIKANE	06271900004		CA	HC	A 39 year old Female reported Rash On Entire Body Area
015148	010	10-May-04	VIKANE	06271900004	MAR VISTA	CA	HC	A 34 year old Female reported Vomiting, Diarrhea
015148	017	08-May-04	VIKANE	06271900004	SANTA MARIA	CA	HC	A 22 year old Male reported Dermal Irritation/Pain, Syncope, Nausea,

IDS Report

2/3/09

Chemical: Sulfuryl Fluoride**078003****Human Incidents**

Incident Number		Incident Date	Product Name	Registration Number	City	State	Exposure Type*	Incident Description
								Blurred Vision
015212	005	10-Jun-04	VIKANE	06271900004		FL	HC	A 32 year old Male reported Shortness of Breath
015360	007	22-Jun-04	VIKANE	06271900004	KAWAII	HI	HC	A 42 year old Female reported Dizziness/Vertigo
015360	010	08-May-04	VIKANE	06271900004		CA	HC	A 63 year old Male reported Malaise, Coughing/Choking, Bronchospasm
015360	011	22-Jul-04	VIKANE	06271900004	OCEANSIDE	CA	HC	Unknown Adult (18-64 years old) Female reported Vomiting
015453	010	23-Jul-04	VIKANE	06271900004	OAKLAND PARK	FL	HC	A 61 year old Female reported Chest Pain, Headache, Pneumonia
015453	012	09-Jun-04	VIKANE	06271900004	LOS ANGELES	CA	HC	Unknown Adult (18-64 years old) Female reported Burning Eyes, Tingling Fingers
015453	013	18-Aug-04	VIKANE	06271900004	ARROYO GRANDE	CA	HC	A 61 year old Male reported Chest Pain, Agitation, Tachycardia, Hypertension
015453	020	31-Jul-04	VIKANE	06271900004	SAN DIMAS	CA	HC	A 62 year old Male reported Shortness of Breath; a 49 year old Female reported Coughing/Choking, Shortness of Breath
015669	003	03-Jun-04	VIKANE GAS FUMIGANT	06271900004	CHULUOTA	FL	HC	A 55 year old Female reported Hypertension, Blurred Vision, Ocular Irritation/Pain, Lacrimation, and Photophobia. The woman's 59 year old husband reported Ocular Irritation/Pain
015669	008	08-Sep-04	VIKANE GAS FUMIGANT	06271900004	TUSTIN	CA	HC	A 66 year old Female reported Ocular Irritation/Pain, Ocular Dryness

IDS Report

2/3/09

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015757	001	10-Oct-04	VIKANE GAS FUMIGANT	06271900004	SANTA ANNA	CA	HC	A 76 year old Female reported Dyspnea, Nasal Irritation
015757	005	17-Nov-04	VIKANE GAS FUMIGANT	06271900004	GLENDALE	CA	HC	A 64 year old Female reported Dyspnea, Ocular Irritation/Pain, Throat Irritation, Bronchitis, Otitis Media
016009	005	07-Feb-05	VIKANE GAS FUMIGANT	06271900004	DIAMOND BAR	CA	HC	A 62 year old Female reported Hives/Welts
016280	003	18-Apr-05	VIKANE GAS FUMIGANT	06271900004	ORLANDO	FL	HC	A 71 year old Male reported Abdominal Pain
016354	004	24-May-05	VIKANE GAS FUMIGANT	06271900004	WEST LA	CA	HC	A 46 year old Female reported Dermal Irritation/Pain, Numbness, Dyspnea
016354	010	27-May-05	VIKANE GAS FUMIGANT	06271900004	OXNARD	CA	HC	A 62 year old Female reported Ocular Irritation/Pain, Red Eye/Conjunctivitis
016354	015	23-May-05	VIKANE	06271900004	MILILANI	HI	HC	A 55 year old Female reported Dizziness/Vertigo, Headache, Muscle Weakness
016354	020	15-Jun-05	VIKANE GAS FUMIGANT	06271900004	MIAMI	FL	HC	A 44 year old Female reported Respiratory Dyspnea
016633	007	02-May-05	VIKANE GAS FUMIGANT	06271900004	EAST LOS ANGELES	CA	HC	A 66 year old Male reported Drowsiness/Lethargy, Headache
016738	010	10-Sep-05	VIKANE	06271900004	TEMECULA	CA	HB	Unknown (15-21 years old) Male reported Malaise, Heart Attack Symptoms
016738	012	28-Aug-05	VIKANE GAS FUMIGANT	06271900004	MIAMI	FL	HC	A 73 year old Female reported Rash, Pruritus
016828	005	07-Oct-05	VIKANE GAS FUMIGANT	06271900004	MACON	GA	HC	Unknown Adult (18-64 years old) Female reported Rash, Edema

IDS Report

2/3/09

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016828	008	20-Oct-05	VIKANE GAS FUMIGANT	06271900004	LAKESIDE	CA	HC	Unknown Adult (18-64 years old) Male reported Rash on Back
016940	013	05-Mar-05	VIKANE	06271900004	HAWTHORNE	CA	HC	5 Children reported Stomach Cramping
016940	036	11-Sep-05	VIKANE	06271900004	CAMARRILLO	CA	HB	A 18 years old Male reported Difficulty Breathing, Mild Heart Attack. He entered a structure while it was being Fumigated.
016961	003	29-Sep-05	VIKANE	06271900004	NEWBURY PARK	CA	HC	A 6 month old Male Child reported Respiratory Problems, Coughing, Difficulty Breathing
017585	004	20-May-06	VIKANE GAS FUMIGANT	06271900004	WINTERPARK	FL	HC	A 26 year old Male re-entered an apartment building that was being fumigated and reported Convulsions
017958	008	13-Sep-06	VIKANE GAS FUMIGANT	06271900004	SAN PEDRO	CA	HC	A 44 year old Female reported Tachycardia, Nausea, Vomiting, and Dyspnea/Shortness of Breath. An adjacent structure, that was about 8 feet from her home, was tented 2 nights ago and fumigated with the product.
018160	002	30-Oct-06	VIKANE GAS FUMIGANT	06271900004	ANAHEIM	CA	HC	Unknown Adult (18-64 years old) Individual reported Respiratory Bronchitis, Inner Ear Infection.
018160	005	06-Nov-06	VIKANE GAS FUMIGANT	06271900004	ERVINE	CA	HC	Unknown Adult (18-64 years old) Female reported Throat Irritation, Respiratory Coughing/Choking.

IDS Report

2/3/09

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078003

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018428	005	12-Sep-05	VIKANE	06271900004		CA	HB	A 17 year old Teenager reported Vomiting, Nausea, Leg Cramps, and Trouble Breathing after entering a house that was being fumigated with the product.
018428	039	10-Jan-07	VIKANE	06271900004	FOUNTAIN VALLEY	CA	HC	Unknown Adult (18-64 years old) Homeowners returned home after the house was cleared for re-entry after being fumigated. The Couple reported Nausea, Fatigue, and Vomiting.
018930	006	22-Jan-07	VIKANE GAS FUMIGANT	06271900004	SANTA MONICA	CA	HC	A 45 year old Male reported Shortness of Breath, Dizziness, and Throat Irritation after an apartment building was fumigated.
018930	008	10-Jan-07	VIKANE GAS FUMIGANT	06271900004	FOUNTAIN VALLEY/SANCLE MEN	CA	HB	A 78 year old Male reported Creatinine Increase, Malaise, Shortness of Breath, and Pneumonia after a house was fumigated.
018930	021	20-Feb-07	VIKANE GAS FUMIGANT	06271900004	PACOIMA	CA	HB	A 54 year old Female re-entered her house after it was fumigated. She reported Taste Alteration, Congestion, Coughing/Choking, Pneumonia
018930	024	18-Jan-07	VIKANE GAS FUMIGANT	06271900004	SAN JOSE	CA	HC	A 31 year old Male reported Dermal Irritation/Pain after his house was fumigated with the product.
018930	032	19-Apr-07	VIKANE GAS FUMIGANT	06271900004	VISTA	CA	HC	A 49 year old Female reported Unpleasant Taste in Mouth, Throat Irritation, Congestion

IDS Report

2/3/09

Chemical: Sulfuryl Fluoride**078003****Human Incidents**

Incident Number		Incident Date	Product Name	Registration Number	City	State	Exposure Type*	Incident Description
018966	004	01-Aug-07	VIKANE GAS FUMIGANT	06271900004	LA JOLLA	CA	HC	Unknown Adult (18-64 years old) Female reported Edema/Swelling, Hives/Welts.
018984	006	21-Apr-07	VIKANE	06271900004	SAN DIEGO	CA	HC	Unknown Adult (18-64 years old) Female reported Asthma soon after entering her residence that was treated with the product.
019321	003	01-Dec-07	VIKANE GAS FUMIGANT	06271900004		CA	HC	A 62 year old Female reported Pruritus, Dry Lips, Swollen Tongue, Memory Loss, Redness/Conjunctivitis
019588	001	16-Feb-08	VIKANE GAS FUMIGANT	06271900004	GAINSVILLE	FL	HC	A 30 year old Male reported Upset Stomach after ingesting salt, pepper and hot sauce that was left in the residence while it was fumigated.