

**HSERC MEMBERS OR THE VOTING REPRESENTATIVES'
SIGN-IN SHEET FOR June 13, 2014**


Scott Enright
Dept. of Agriculture
Board of Agriculture

Tin Shing Chao
Occupational Safety and Health Division
Department of Labor and Industrial Relation

Henry Silva
Hawaii Representative/LEPC Chairperson
Hawaii County Fire Department

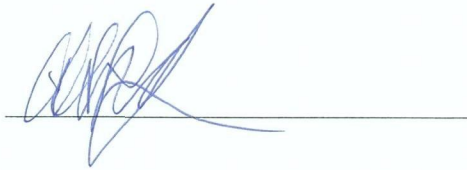
Alexander J. Adams
Honolulu Representative/LEPC Chairperson
Honolulu Fire Department





Albert Kauai
Kauai Representative/LEPC Chairperson
Kauai Fire Department

Scott Kekuewa
Maui Representative/LEPC Chairperson
Maui Fire Department





Gary L. Gill
Deputy Director, Environmental Health
Department of Health

Jessica Wooley
Director
Office of Environmental Quality Control


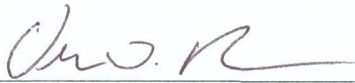
HSERC MEMBERS OR THE VOTING REPRESENTATIVES' SIGN-IN SHEET FOR June 13, 2014

Audrey Hidano,
Deputy Director - Administration
Department of Transportation

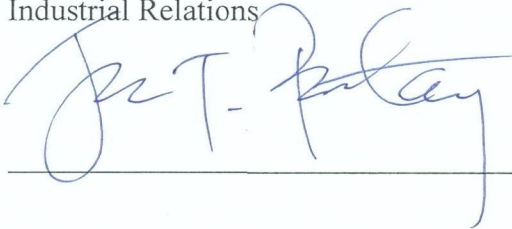
William M. Tam
Deputy for Commission on Water
Resource Management
Department of Land and Natural Resources

Doug Mayne
State Civil Defense
Department of Defense

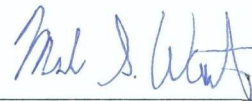
For Kathryn Braun
Director
Office of Public Health Studies
University of Hawaii at Manoa



Jade Butay,
Deputy Director
Department of Labor and
Industrial Relations



Mark Want,
Energy Analyst
Department of Business Economic
Development & Tourism



HSERC MEETING SIGN-IN SHEET FOR June 13, 2014

Name	Organization	Telephone #	Fax #	E-Mail
Jeffrey M. Kihune	Marine LEPC	808-870-7404		jkffkihune@yahoo.com
Curtis Meade	DOH	586-4249		
ROBERT H-H HARTER	DEM/LEPC	723-8958		RHARTER@HONOLULU.SOU
Lynn Bailey	DOH	586-4249		lynn.bailey@doh.hawaii.gov
Harold Igo	HEER	586-4249		harold.igo@doh.hawaii.gov
DRASA FERNANDEZ	DOE	586-3457		Drasa-Fernandez@notes.k12.hi.us
Adam Tedcell	DOH/HEER	586-4249		adam.tedcell@doh.hawaii.gov
Liz Galvez	DOH/HEER	586-4249		
Cynthia Pang	Navy	473-4689		Cynthia.pang@navy.mil
Terry Corpus	DOH/HEER	586-4249		terence.corpus@doh.hawaii.gov



LIEUTENANT GOVERNOR'S
OFFICE

'14 JUN -6 P2:43

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
File:

HAWAII STATE EMERGENCY RESPONSE COMMISSION
MEETING #95

Friday, June 13, 2014 from 9:00 a.m. to 12:00 p.m.

Department of Health
919 Ala Moana Boulevard, Fifth Floor
Honolulu, Hawaii 96814

AGENDA

- 1) 9:00 Call to Order Gary Gill, Deputy Director for Environmental
Announcements, Remarks, Introduction Health
Approval of Minutes from Mtg #94
- 2) 9:20 LEPC Updates Henry Silva, Hawaii LEPC Representative
Albert Kauai, Kauai LEPC Representative
Scott Kekuewa, Maui LEPC Representative
Alex Adams, Oahu LEPC Representative
- 3) 9:40 School Chemical Lab Clean Up Henry Silva, Alex Adams, Grace Simmons
Committee Up Date
- 4) 10:00 Update on Possible Homeland Sharon Leonida, HEER Office
Security Team Attending HSERC
- 5) 10:10 Publication Where Information Sharon Leonida, HEER Office
Can be Placed – Trade Unions
- 6) 10:20 NASTTPO Update LEPC's, Bob Harter, Alex Adams, Henry Silva
HMEP Grant, Tier II Sharon Leonida
- 7) 10:40 HMEP Grant Harold Lao, HEER Office
- 8) 11:00 Makahi Pahili 2014 Keith, SCD
Exercise
- 9) 11:20 Future Dates For Hand out
HSERC Meetings
- 10) 11:30 Other Business HSERC, LEPC
- 11) 11:40 Schedule next HSERC Meeting HSERC, LEPC



In reply, please refer to:
File:

STATE OF HAWAII
DEPARTMENT OF HEALTH

P. O. BOX 3378
HONOLULU, HI 96801-3378

HAWAII STATE EMERGENCY RESPONSE COMMISSION
MEETING # 94

Friday, March 7, 2014, 9:00 a.m. to 12:00 p.m.

Department of Health
919 Ala Moana Boulevard, 5th Floor
Honolulu, Hawaii 96814

Attendees

Voting: Gary Gill, Chairperson, Deputy Director for Environmental Health, Dept. of Health; Albert Kauai, Kauai County LEPC; Henry Silva, Hawaii County LEPC; Jade T. Butay, Dept. of Labor and Industrial Relations; Alex Adams, Honolulu LEPC; Doug Mayne, SCD, Dept. of Defense; Valerie Yontz, Public Health Studies, University of Hawaii; Mark Want, Dept. of Business Economic Development and Tourism, Tin Shing Chao, OSHA, Dept. of Labor and Industrial Relations

Non-Voting: Keith Kawaoka, Sharon Leonida, Beryl Ekimoto, Curtis Martin, Harold Lao, Liz Galvez, Adam Teekell, Terry Corpus, Dept. of Health, HEER Office; Robert H. Harté, City and County of Honolulu, Dept. of Emergency Management; Grace Simmons, Travis Hiramoto, Solid and Hazardous Waste Branch; Sonia Campbell, University of Hawaii; Cynthia Pang, U.S. Navy; Mark Behrens, DOE, Safety and Security Office; Valeriano Martin, Maui Fire Dept.; Alan Carvalho, Manuel Neves, Honolulu Fire Dept.

1. Gary Gill, Chair, called the meeting to order at 9:17 am.

- 1.1 Introduction of Attendees. Dr. Linda Rosen was scheduled to attend but she was unable to.
- 1.2 Approval of minutes for meeting #93, **no objections to minutes as presented, minutes adopted.**

2. LEPC Updates:

- 2.1 Hawaii County: Henry Silva
 - 2.1.1 The LEPC meeting was held on February 6, 2014, sixteen people attended. The next meeting will be in March 8, 2014.
 - 2.1.2 Brainstorming on how to dispense Tier II information. This was held after the regular LEPC meeting.
 - 2.1.3 There was a discussion on school labs, what is happening on the HSERC level.
 - 2.1.4 Hawaii Fire Department had their annual CST Drill in March. Liz Galvez has done Hazcat training with two Hazmat Teams on Hawaii.
 - 2.1.5 BEI on the Big Island, has been audited by the Department of Homeland Security. HSL is interested in chemicals that can be used in bomb making; they want to insure that

- secure procedures are in place. Even the smallest amount of missing chemicals must be reported.
- 2.1.6 BEI has recertified the Fire Department's Chlorine coffins and Chlorine's mitigation equipment. No Hazmat incidents.
- 2.2 Kauai County: Albert Kau
 - 2.2.1 The last LEPC meeting was on February 19, 2014, eight people attended.
 - 2.2.2 He gave updates on HSERC to the LEPC members and talked about upcoming training. Hazardous Materials Technician Recertification training will be on March 12, 13, & 14.
 - 2.2.3 There was a transformer spill of approximately forty-two gallons Mineral Oil at PRMF. It occurred in the later part of December. Contractors did clean up, it was reported to the HEER Office.
 - 2.2.4 Two cylinders of propane washed ashore in the later part of 2013.
 - 2.3 Maui County: Valeriano Martin Maui Fire Department
 - 2.3.1 He did not have the minutes of the last meeting available. Training has been ongoing.
 - 2.4 Honolulu City & County: Alex Adams
 - 2.4.1 The last LEPC meeting was December 11, 2013, next meeting will be on March 18, 2014.
 - 2.4.2 Bob Harter arranged for speaker John Wypack from FEMA. A presentation was done by phone. Bob used slides in a power point as John talked about Hurricane Sandy and FEMA's Response. It included how Hazmat problems were handled and how disposal was done for the massive amount of debris
 - 2.4.3 Walter Medina, a city trainer, talked about the Global Harmonization System.
 - 2.4.4 A speaker from the United States Coast Guard spoke about some of their responses, several involved the HEER Office.
 - 2.4.5 HFD worked with the 93th CST, (Civil Support Team), at the Honolulu Marathon. They did pre-event screening as well as doing monitoring during the event for Hazmat and WMD, Weapons of Mass Destruction possibilities.
 - 2.4.6 For the Pro Bowl, there were groups that did air monitoring, medical personnel, and the fire prevention section from HFD. The Unified Command included fire, police, bomb squad and many other agencies working together.
 - 2.4.7 Training with the 93rd CST in February included using an airplane as a scenario. Level A suits were used.
 - 2.4.8 Helium tank started leaking in a warehouse, it was moved outside and allowed to vent.
 - 2.4.9 Chemicals that were once used to treat telephone poles caused a fire when contractors were trying to dispose of them. HFD noticed other drums were also expended. Terry Corpus from HEER Office did a follow up. That area was being used as a storage area for that contractor.
 - 2.5.0 HFD did a walkthrough of BEI Iwilei along with HSL (Homeland Security), DEM (Dept. of Emergency Management), and HPD Special Events Unit. This inspection was under the CFATS, Chemical Facility Anti-Terrorism Standards, Regulation, CFR 6. All companies that have certain chemicals must comply with this regulation. The inspectors were secretive on what companies they visited. Alex and Bob explained about some of the things the inspectors checked, including: security systems, fences, cameras, type of locks, how different areas were separated, if any chemicals had been reported missing. These inspections started in 2007. There is a list of three hundred chemicals that they

check for. Gary suggested that we request that HSL come to one of our HSERC meetings to give a briefing.

3. School Labs Clean Up – Update on Removal of Chemicals: Mark Behrens

3.1 Gary explained that Solid and Hazardous Waste Branch has been working with DOE to clean up the school labs. Pictures of chemicals that were found were passed around. HSERC is interested in long term plans on how DOE will continue with the cleanup. Mark provided a sheet that showed how much money had been spent on disposal for the past two to three years. Usually, twenty schools per year have chemicals picked up. The cost for the past two years of cleanup was \$152,000. The DOE has a budget of \$100,000 per year.

The biggest challenge is getting the schools NOT TO ACCEPT DONATIONS. Schools accept paints and other items from parents or stores and are unable to use them. The school then has the responsibility to get rid of the products. There are changes in administrative personnel every year, they must be reminded not to accept donations.

School labs are being encouraged to use programs where large amounts of chemicals are not used. Mark gave examples of schools using computer programs to do experiments; another idea is using micro kits where there are no left over chemicals. DOE needs to insure that all schools go in this direction. They are moving forward with the cleanup, however, they are still finding mercury thermometers and other outdated chemicals. Mark appreciates the cooperation and guidance that the Department of Health is offering.

Valerie asked about the procedures to get rid of the chemicals collected. Grace Simmons explained how the contractors would pack and ship items collected and how costly it would be. On weekends and after hours, dumping occurs at the schools. These items must also be removed. Discussion on cost and inventory of items removed. Mark explained about holding the schools responsible. If cleanup is done once and that same school requests another cleanup, it will be coming out of the school's budget.

Discussion on how HSERC could help DOE cleanup and prevent future storage of chemicals. Mark gave examples of other types of removals that need to be done. These include: automotive lifts and tools, different type of tanks used in various vocational classes, woodshop equipment, agricultural materials that are out dated. Grace suggested doing things in an orderly manner. Keep this item on the agenda. Gary would like the subcommittee to put some ideas together, planning document, or itemizing the issues. Include, if possible, a cost estimate.

4. Global Harmonization System, How to Increase Awareness

4.1 Explanations on handout, changes that will be coming into effect in 2015. Examples of where notifications for this as well as other information, such as Tier II, training courses, projects that are being done by the HEER Office, could be placed to inform the public. Letter for Gary to sign and list of different departments that should be aware of GHS training.

5. Recommendations On How To Disperse Tier II Information

5.1 During Henry's LEPC meeting there was a brain storming session on how to get information to the community. Examples were given on placing brochures at major retail outlets such as LOWES, Home Depot and similar businesses. State and county offices where general excise licenses are issued, as well as other departments that handle planning and permitting would be another possible distribution point. Other possible distribution venues would be community events such as Fire Prevention Week, Household Hazardous Waste Collection, Hurricane Preparedness, and children's events. We would be able to distribute both GHS and Tier II information together.

6. HAZ CAT Skill Development: Liz Galvez, Sonia Campbell
This is the Second Annual "Unknown Sample of the Month" Challenge. Liz explained the procedure of sending an unknown substance once a month to the different Hazmat teams. They must determine what it may be. They may put it in to a HAZARD CLASS, or name the UNKNOWN. The teams can use any tools they want. They are encouraged to use 'Wet Chemistry.' Sonia prepares the samples and the OSCs do the mail out. Hazmat teams sent the answers in and Sonia will reply. Teams may email any questions that they have to Sonia or the OSCs. Sonia has visited and met the different Hazmat teams. Deadline for last year's samples was in February of 2014. For the first year of this contest, only 40 % of the teams participated. Of those, 24% of the answers were correct. Second year of the contest, 58% of the teams participated, 27% were correct. The "unknown samples" included *sake* and sunscreen. Sonia and the OSCs are happy that these Hazmat skills are being practiced.
The third place team was Kapolei Hazmat 2, Captain Soares' shift. Second place was Maui Hazmat, Shift B, Captain Scott Kekuewa. First Place, Honolulu Hazmat 1, Shift B, Captain Alexander Adams. Chief Neves from Honolulu Fire thanked HSERC for recognizing the Hazmat teams. Gary thanked the HEER Office and Sonia for doing this program.
7. EPA Updates: Handout from Mike Ardito, EPA Region 9
Information on the President's Executive Order. There were several websites listed that would be of interest to HSERC members. Comments and questions about the executive order could be entered at one of the sites. There is also a site that gives a progress report on these events.
8. Time Limit for Keeping Tier II Records; Robert Harter, DEM City and County
Bob Harter checked with Mike Ardito from EPA, to determine the length of time that Tier II forms needed to be kept. EPA advised that they would keep it for five years, ex., 2008 to the present, 2013. Possible reason for keeping the records for this time period, EPA can go back up to five years to impose a penalty on a facility. Once the time limit has been reached, forms should be shredded, not dumped.
9. HMEP Grant; Harold Lao
Training schedule for this year is for Honolulu and Big Island. Honolulu's Chemistry Training is set for March 24 – April 4. Hawaii's training will be April 7 – 18. The Tactics training will be, Hawaii May 5 – 16, Honolulu's will be set for May 19 – 30. Total grant amount for this cycle is \$105,645. This is a 6.26% reduction. Next year's grant is due to be submitted in April. Keith commented about how important training is to Hazmat and that Harold does a great job of doing the grant.
Val Martin from Maui commented about the expense that Maui has to pay for their personnel who have the tech ranking. They are thinking of reducing the amount of techs. Doug Mayne suggested looking in to Homeland Security funds. Certain personnel and equipment cost can be covered under this funding. Discussion on how this would work, Curtis and Harold will check with Dee Cooke to see what can be done.
10. Other Business; Red Hill Fuel Spill
Gary announced that there would be a joint hearing with six committees, three from the house and three from the Senate. This concerns an update from the Navy on the **Petroleum Product Spill** in January, from the Red Hill Tanks. This hearing will be at 1:00 this afternoon. Gary gave the history of the tanks. Liz gave details: HEER Office was notified on January 13 of a suspected release. The next day, the OSCs did a site visit to view the tank. Tank 5 had been out of service for four years due to preventative maintenance. It was now filled with 11.3 million gallons of JP8. HEER notified the UST Program at Solid and Hazardous Waste Branch, Safe Drinking Water Branch and the Board of Water Supply. A Unified Command was established with the Navy and meetings were held. This project was

transitioned to the HEER Office Remediation Section on February 14, 2014. Board of Water Supply is concerned, the Halawa Shaft is a mile northwest of the tank facility and Moanalua Well is southeast of this facility. The Navy's Red Hill Shaft has shown some petroleum product in their water. The most recent modeling of the aquifer shows that the flow may be heading in a northwest direction towards the Halawa Shaft. We are asking the Navy to make a long term commitment. To make a better model of current and past spills. Also, to do investigations, remediation and fund additional drinking water monitoring wells. What are the Navy's plan to maintain the tanks? There is concern about a catastrophic release, a possible 12 million gallons, into the drinking water that is directly below the tanks. These tanks do not come under the same regulations as a regular gas station. They are classified as "Fuel Construction Tanks" and are exempted from gas station regulations. Discussion on odor problems that nearby neighborhoods complained about. Could it be because of fuel being transferred or venting?

11. Schedule Next HSERC Meeting

June 13, 2014. Meeting adjourned at 11:23 am.

Respectively Submitted,



Sharon L. Leonida

Environmental Health Specialist III

Leonida, Sharon L

From: Gill, Gary L.
Sent: Thursday, June 12, 2014 4:34 PM
To: Martin, Clarence (Curtis); Lao, Harold C
Cc: Leonida, Sharon L; Acido-Mercado, Leticia [Tish] R.
Subject: Delegated chairmanship of HSERC meeting, June 13th

Curtis, Harold,

Due to scheduling conflicts, I am unable to attend the HSERC meeting on Friday the 13th at 9 a.m.

I hereby appoint either Curtis Martin or Harold Lau to take my place as chair for the day with full voting rights and authority as determined by law.

Thanks for your assistance.

Gary Gill

Department of Defense
Civil Defense Agency
3949 Diamond Head Road
Honolulu, HI 96816

June 6, 2014

TO: Mr. Gary L. Gill, Chair
Hawaii State Emergency Response Commission

FROM Name of Department Head
Title of Person

SUBJECT: Date of HSERC Meeting

I am unable to attend the June 13, 2-14 HSERC meeting due to a conflicting schedule.

I hereby appoint Vern Miyagi from SCD to represent me at the above meeting with all the rights as a voting member.

U N I V E R S I T Y O F H A W A I ' I A T M Ā N O A

Department of Public Health Sciences, Office of Public Health Studies

June 6, 2014

TO Mr. Gary L. Gill, Chair
 Hawai'i State Emergency Response Commission

FROM Kathryn L. Braun, DrPH
 Chair, Department of Public Health Studies
 University of Hawai'i



SUBJECT HSERC Meeting

I am unable to attend the HSERC meeting due to a conflicting schedule.

I hereby appoint Dr. Valerie Yontz from the University of Hawai'i Department of Public Health Studies to represent me at the above meeting with all the rights as a voting member.

She will attend in my place until further notice.

Thanks!!

Leonida, Sharon L

Subject: FW: U.S. Department of Homeland Security (U.S. DHS) Chemical Facility Anti-Terrorism Standards (CFATS)

HSERC'S REQUEST TO HAVE A PRESENTATION FROM HOMELAND SECURITY.

From: Lockett, Rodney [mailto:Rodney.Lockett@HO.DHS.GOV]

Sent: Thursday, June 05, 2014 10:18 AM

To: Leonida, Sharon L

Subject: U.S. Department of Homeland Security (U.S. DHS) Chemical Facility Anti-Terrorism Standards (CFATS)

Good day Mrs. Leida,

My name is Rodney Lockett, I am the Region 9 Regional Director for Chemical Facility Anti-Terrorism Standards (CFATS). I have received information that you would like to receive information or a presentation about the CFATS program. I have attempted to conduct meet and greets there, but my schedule has continued to be hectic. I think with advance planned I would be to meet the HSERC's and LEPCs needs.

To request for a CFATS representative to speak on the Chemical Facility Anti-Terrorism Standards (CFATS) regulatory program, please complete the information below and send this information back the following information to cfats@hq.dhs.gov.

1. Who you are, or the organization you represent.
2. Is this a for-profit or not-for-profit organization?
3. Specific CFATS-related issues of particular interest to your organization and attendees (e.g., general CFATS overview, Chemical-terrorism Vulnerable Information (CVI), Security Vulnerability Assessment (SVA), Risk Based Performance Standards (RBPS), Site Security Plan (SSP) or Inspection Process).
4. Proposed location/venue.
5. Proposed date/time.
6. Preferred duration of presentation (please specify if the Department representative should allot time for questions and answers from audience).
7. Estimated number of attendees.
8. Background of attendees.
9. Other speakers who may be participating on the same topic or forum.
10. Is the event opened or closed to the press.
11. Event Agenda (when available)

The Department will do its best to accommodate your request and respond within approximately two weeks of receiving the request. Decisions will on whether an appropriate Department representative is available.

I look forward to hearing from you soon.

Rodney Lockett

Rodney Lockett,

Region 9 Director
Chemical Facility Anti-Terrorism Standards

Field Operation Branch
Infrastructure Security Compliance Division
U.S. Department of Homeland Security

(AZ, CA, NV, HI, GU, and CWNM)

Work number: (202) 841-2065
Email: rodney.lockett@hq.dhs.gov

CFATS Tips Line: (877) 394-4347 or CSAT@dhs.gov

To learn more go to www.dhs.gov/chemicalsecurity

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Thank you.

What happens to malathion in the environment?

Bacteria in the soil may break down malathion and sunlight can break down malathion in the air. Malathion will mix with water and can move quickly through soil. Because of these properties, malathion can be found in surface waters such as streams, and sometimes it is found in well water. The time it takes for malathion to break down to half of the original amount in soil is about 17 days, depending on the soil type. This length of time is known as the half-life. In water, malathion has a half-life between 2 and 18 days, depending on conditions like temperature and pH. Malathion vapor may also move long distances in air or fog.

Can malathion affect birds, fish, or other wildlife?

Malathion is highly toxic to bees and other beneficial insects, some fish, and other aquatic life. Malathion is moderately toxic to other fish and birds, and is considered low in toxicity to mammals.



Where can I get more information?

For more detailed information see the [Malathion Technical Fact Sheet](#) or call the National Pesticide Information Center, Monday - Friday, between 7:30 AM and 3:30 PM Pacific Time (10:30 AM to 6:30 PM Eastern Time) at 1-800-858-7378 or visit us on the web at <http://npic.orst.edu>. NPIC provides objective, science-based answers to questions about pesticides.

Date Reviewed: May 2010

NPIC is a cooperative agreement between Oregon State University and the U.S. Environmental Protection Agency (U.S. EPA, cooperative agreement # X8-83458501). The information in this publication does not in any way replace or supercede the restrictions, precautions, directions, or other information on the pesticide label or any other regulatory requirements, nor does it necessarily reflect the position of the U.S. EPA.

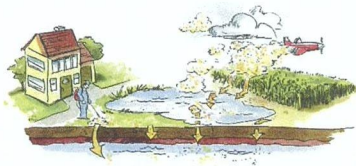
What is malathion?

Malathion is an insecticide in the chemical family known as organophosphates. Products containing malathion are used outdoors to control a wide variety of insects in agricultural settings and around people's homes. Malathion has also been used in public health mosquito control and fruit fly eradication programs. Malathion may also be found in some special shampoos for treating lice. Malathion was first registered for use in the United States in 1956.

What are some products that contain malathion?

Products containing malathion may be liquids, dusts, wettable powders, or emulsions. There are thousands of products containing malathion registered for use in the United States.

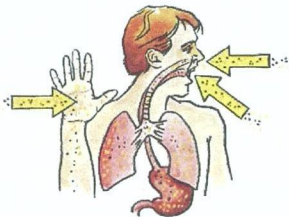
Always follow label instructions and take steps to avoid exposure. If any exposures occur, be sure to follow the First Aid instructions on the product label carefully. For additional treatment advice, contact the Poison Control Center at 1-800-222-1222. If you wish to report a pesticide problem, please call 1-800-858-7378.



How does malathion work?

Malathion kills insects by preventing their nervous system from working properly. When healthy nerves send signals to each other, a special chemical messenger travels from one nerve to another to continue the message. The nerve signal stops when an enzyme is released into the space between the nerves. Malathion binds to the enzyme and prevents the nerve signal from stopping. This causes the nerves to signal each other without stopping. The constant nerve signals make it so the insects can't move or breathe normally and they die.

People, pets and other animals can be affected the same way as insects if they are exposed to enough malathion. About the same amount of malathion will be taken into the body whether you breathe it in or you swallow it. Malathion is also readily taken into the body through skin, though the amount absorbed will depend on where the exposure occurs on the body. Malathion can become more toxic if it has been sitting for a long time, especially in a hot place.



How might I be exposed to malathion?

You could be exposed to malathion if you get it on your skin or breathe it in, or if you use a product and eat, drink, or smoke afterwards without washing your hands. People who apply products containing malathion may be exposed if they do not wear the proper protective equipment. You could also be exposed to residues of malathion if you ate food that had been treated with this pesticide.

NPIC General Fact Sheets are designed to provide scientific information to the general public. This document is intended to promote informed decision-making. Please refer to the Technical Fact Sheet for more information.

What are some signs and symptoms from a brief exposure to malathion?

People who were exposed to enough malathion to become sick felt nauseated or vomited, had muscle tremors, cramps, weakness, shortness of breath, a slowed heart rate, headache, abdominal pain and diarrhea.



Pets could be exposed to malathion if they get into a product by accident, or touch or eat plants that have just been sprayed. Pets will be affected by malathion like other animals. The nervous system is very similar in people and other animals, so animals poisoned by malathion may show signs similar to those observed in people.

What happens to malathion when it enters the body?

In both humans and animals, malathion travels to the liver and kidneys and affects the nervous system. Generally, the body can break down malathion and remove it quickly. Studies in rats showed that most malathion was gone from their bodies within a day of exposure.

Is malathion likely to contribute to the development of cancer?

Researchers fed malathion to rats for up to two years and to mice for a year and a half. They found no evidence of increased cancer in the treated animals. Other studies using higher doses of malathion in rats and mice found that they developed liver cancer. The United States Environmental Protection Agency (U.S. EPA) has determined that there is "suggestive evidence of carcinogenicity but not sufficient to assess human carcinogenic potential by all routes of exposure," for malathion.

Has anyone studied non-cancer effects from long-term exposure to malathion?

Rats fed malathion when they were pregnant had lower levels of the target enzyme than other rats. The fetuses also had less of the target enzyme. Rabbits were more likely to resorb their fetuses if they were fed malathion when pregnant. Rats that were fed malathion for three weeks had less thyroid activity than other rats.

Are children more sensitive to malathion than adults?

There were no studies found showing that children are more sensitive to malathion than adults. While [children may be especially sensitive to pesticides](#) compared to adults, there are currently no data showing that children have increased sensitivity specifically to malathion.