

**OREGON OCCUPATIONAL SAFETY & HEALTH DIVISION
DEPARTMENT OF CONSUMER & BUSINESS SERVICES**

PROGRAM DIRECTIVE

Program Directive: A-256
Issued: May 1, 2006
Revised: September 27, 2007

SUBJECT: Local Emphasis Program (LEP) on Diisocyanates

AFFECTED CODES

&DIRECTIVES: OAR 437-001-0057(9)
[Program Directive A-243 “Spray Finishing: Assessing Fire Safety & Industrial Hygiene Issues for Diisocyanates”](#)
[OR-OSHA Hazard Alert, “Diisocyanates on Spray-on \(Truck\) Bed Liners, issued March 27, 2006](#)
[Hazard Communication OAR 437-002-1910.1200](#)
[Personal Protective Equipment OAR 437-002-1910.132](#)
[Respiratory Protection OAR 437-002-1910.134](#)
[Air Contaminates OAR 437-002-0382](#)
[Ventilation OAR 437-002-1910.94, OAR 437-002-0081](#)
[Spray Finishing OAR 437-002-0107](#)
[Sanitation OAR 437-002-1910.141](#)
[Medical Services and First Aid OAR 437-002-0161](#)

REFERENCES: [NIOSH ALERT 1996 DHHS \(NIOSA\) Publication No. 96-111“Preventing Asthma and Death from Diisocyanate Exposure”](#)

PURPOSE: This directive describes policies and procedures for implementing a local emphasis program (LEP) to reduce and eliminate the workplace incidence of acute and chronic health effects resulting from occupational exposure to diisocyanates and to establish neutral administrative standards to select employers in those industries for health inspections.

SCOPE: This (LEP) includes inspections conducted in any industry or at any work site where the division determines that there is a potential worker exposure to diisocyanates.

BACKGROUND: The initial focus of this local emphasis program PD A-256 issued May 1, 2006 was directed to spray on bed liners and undercoating applications in the automotive industry. This revised directive will focus on a broader scope of diisocyanate use in industry or work sites where there is potential worker exposure to diisocyanates.

Employee exposure to diisocyanates can result in both acute, and chronic long-term serious health effects. Diisocyanates are known to be an inhalation and skin hazard among occupationally exposed workers. They are powerful irritants to the mucous membranes, gastrointestinal and respiratory tract. Irritation may be severe enough to produce bronchitis with bronchospasm. They are also allergic sensitizers and are known to cause respiratory sensitization, an allergic, asthma-type reaction. Once sensitization has occurred, future exposures can produce allergic reactions often with debilitating effects. Sensitization can occur from diisocyanates being absorbed through skin contact. Dermal sensitization may result in rash, itching, hives, and swelling of the extremities. Because they are not water-soluble, they cannot be easily washed off skin or clothing. Chronic, long term exposure can result in decreased lung function, eventually leading to the sensitization of the respiratory system and the development of occupational asthma.

ACTION: Inspection scheduling under this directive will incorporate these criteria:

An inspection may be scheduled in places of employment when from information available to the Division, recognized health hazards known to be associated with certain processes, are reasonably thought to exist at the place of employment, and the division determines the location of a work-site. OAR 437-001-0057(7).

The Division will identify places of employment through information obtained from the Department of Consumer and Business Services (DCBS) claim and employer files, the Bureau of Labor Statistics (BLS) Occupational Injury and Illness Survey, and knowledge of recognized safety and health hazards associated with certain processes. Other readily available data sources such as employer databases, service directories, internet searches, and local knowledge will be used to compile a listing of worksites. These listings will be developed regionally.

PROCEDURES: Inspection Scheduling Lists

1. Each region will do a search of data sources to compile a listing of establishments where these operations are believed to take place.
2. Establishments with fewer than ten employees will be included.
3. Establishments that have received a health inspection in the last three years will be deleted from the inspection list.
4. Each establishment will be prioritized for inspection based on the procedures outlined in Appendix A of this directive.

Inspection Procedures

Inspections under this local emphasis program will focus on:

1. All aspects of diisocyanates–related work or exposure, including a review of written programs:
 - a. [Hazard Communication OAR 437-002-1910.1200](#)
 - b. [Personal Protective Equipment OAR 437-002-1910.132](#)
 - c. [Respiratory Protection OAR 437-002-1910.134](#); e.g., establishment of a written program to include: an evaluation of the respiratory hazards, respirator selection, change-out schedules where canisters/cartridges are in use, medical evaluation, fit testing, maintenance and care of respirators, training, program evaluation, recordkeeping, etc.
2. Air sampling of active work processes to document exposure to air contaminants per the [Air Contaminants Rules OAR 437-002-0382](#).
3. Engineering control methods, e.g., ventilation methods, spray booths, spray areas, etc. [Ventilation OAR 437-002-1910.94](#), [OAR 437-002-0081](#) and [Spray Finishing OAR 437-002-0107](#).
4. Housekeeping and personal hygiene practices, e.g., no eating etc. in spray areas, wash facilities to remove potential chemical exposure from the skin from routine work practices per the [Sanitation OAR 437-002-1910.141](#) and related sanitation rules
5. Medical Services and First Aid, e.g., emergency medical plan, emergency eyewash and shower per [Medical Services and First Aid OAR 437-002-0161](#)

Compliance Officers will follow existing policies and procedures when citing standards used to address hazards identified through this LEP.

OSHA-1 CODING: The OSHA-1 for all diisocyanates LEP health inspections will be coded as follows:

1. The Inspection Type (box 24) will be **Programmed Planned**.
2. The Inspection Classification (box 25c) will be Local Emphasis Program ISOCYAN
3. The Scope of Inspection (box 35) will be **Comprehensive**.

OUTREACH: Outreach efforts will be made to employers, industry groups, trade associations, labor unions, and safety and health organizations who may be affected by this local emphasis program.

TRAINING: Oregon OSHA will assure that health compliance officers receive training on this local emphasis program and other appropriate policies and procedures prior to conducting health inspections under this directive.

EVALUATION: This local emphasis program will be reviewed annually to determine its' effectiveness in achieving overall objectives. Targeted industry processes/operations where diisocyanates are in use will be reviewed and updated on a periodic basis.

EFFECTIVE DATE: This directive is in effect until canceled or superceded.

APPENDIX A INSPECTION SCHEDULING LISTS

This appendix outlines the method by which an inspection list is created using random numbers. The table of random numbers provided is designed to order randomly a list of establishments which contains 50 or fewer establishments.

The following table has been produced by ordering the integers from 1 to 50 randomly and displaying the results. There are ten sets of independently derived random numbers (50 numbers: the integers from 1 to 50 listed in ten columns).

An inspection cycle will consist of no more than ten establishments. Within the cycle, the establishments may be scheduled and inspected in any order that makes efficient use of resources. All establishments in a cycle must have inspections initiated before any establishments in a new cycle may be inspected.

Health Enforcement Managers are responsible for the creation and administration of the regional lists under their jurisdiction.

The procedure to be used is as follows:

1. Make all modifications to the establishment list.
2. Number the establishment list sequentially; i.e., assign "1" to the first establishment on the list, "2" to the second, etc.
3. Cross out all numbers on the random number set that has been selected which are greater than the number of establishments on the establishment list.
4. Include all establishments in the inspection cycle whose sequence number is listed in the number set.
5. Draw a line after the last random number used; this will be the starting point for the next inspection cycle.

EXAMPLE: Suppose there are 40 establishments on the establishment list and an inspection cycle containing 10 establishments is needed. Random number Set 1 is the one selected and all numbers greater than 40 are crossed out. The first inspection cycle would then contain establishments with the following sequence numbers: 1, 27, 9, 28, 34, 10, 24, 5, 36, 3. Draw a line under the number 3 and start the next cycle.

Set 1	Set 2	Set 3	Set 4	Set 5	Set 6	Set 7	Set 8	Set 9	Set 10
1	50	28	47	4	27	45	9	16	50
41	16	26	17	3	5	12	1	6	3
27	28	49	15	10	50	13	29	38	15
9	30	11	48	19	43	4	36	50	41
28	9	4	1	1	39	38	6	3	22
34	49	34	38	25	23	20	21	33	34
10	14	41	9	30	4	50	31	8	6
24	18	16	12	20	30	44	20	14	28
5	17	8	8	12	42	10	37	28	12
36	35	20	33	14	15	1	49	24	46
43	38	17	25	43	47	9	17	19	21
3	40	9	30	48	24	7	32	49	45
40	33	27	42	31	28	21	14	21	13
23	47	39	36	15	12	11	30	29	2
48	6	36	43	33	13	28	41	23	37
35	2	18	7	22	35	3	15	13	1
47	7	30	31	44	21	25	23	27	38
44	12	10	20	32	16	23	28	47	33
19	39	48	37	8	20	36	10	40	49
8	29	13	19	34	29	6	50	2	27
4	36	19	46	45	19	47	33	32	47
31	31	35	11	49	38	14	8	37	18
26	24	32	50	18	45	37	7	4	5
17	11	7	16	26	44	41	26	20	44
16	21	25	21	23	25	19	48	17	10
18	44	22	27	36	32	24	40	34	26
15	13	50	14	6	34	49	39	5	9
32	26	38	34	27	18	34	11	10	32
39	23	31	10	21	48	46	43	18	35
33	41	42	23	38	46	31	22	15	48
50	45	46	4	9	6	30	34	43	36
29	5	43	29	13	31	17	46	48	17
7	32	3	13	16	41	35	5	1	29
21	8	2	49	40	2	43	42	26	20
25	22	40	3	24	8	39	25	31	16
13	25	14	26	5	37	48	45	35	11
42	46	47	41	50	3	29	18	46	40
46	20	1	5	39	22	27	4	9	30
20	19	24	6	28	1	32	12	22	25
14	48	12	32	2	14	18	3	11	7
30	42	45	2	37	7	2	38	12	39
49	15	6	22	47	10	5	16	44	19
12	43	21	18	42	33	15	24	25	14
37	27	23	40	11	11	16	27	41	4
22	1	33	44	35	17	22	13	30	42
6	37	44	28	17	9	40	44	42	24

11	3	15	45	41	36	33	47	39	23
38	4	29	39	46	40	8	19	36	43
45	10	37	35	29	49	26	35	7	31
2	34	5	24	7	26	42	2	45	8