

**The 2004 EMI-SIG & SCAPA Meetings,
Washington, DC**

ERPG Status Report

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**Emergency Response
Planning Guidelines
- ERPGs -
one hour
exposure guidelines
protective of the general
public**

Example: ERPGs for Chlorine

ERPG-1: 1 ppm odor, noticeable

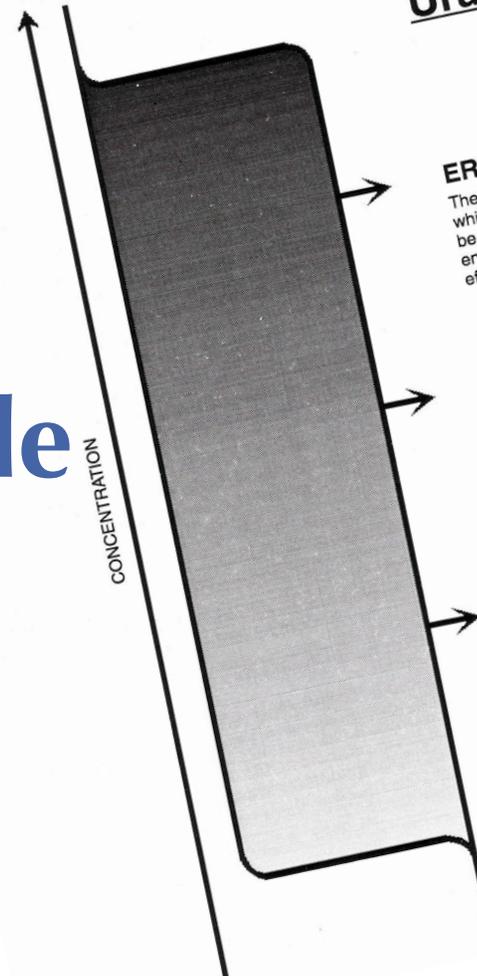
ERPG-2: 3 ppm irritation, ability
to escape

ERPG-3: 20 ppm irreversible health
effects, death

Uranium Dioxide

ERPG Document Set

ERPG Uranium Dioxide Documentation



ERPG-3: 30 mg/m³
The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing or developing life-threatening health effects.

ERPG-2: 10 mg/m³
The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing or developing irreversible or other serious adverse health effects or symptoms that could impair an individual's ability to take protective action.

ERPG-1: Insufficient Data
The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing other than mild, transient adverse health effects or without perceiving a clearly defined objectionable odor.

U₂O ERPG

EMERGENCY RESPONSE PLANNING GUIDELINE

URANIUM DIOXIDE*

ERPG-3: 30 mg/m³ (2003)

ERPG-2: 10 mg/m³

ERPG-1: Insufficient Data

ON (1,2)

e: Uranium Dioxide
nium(4) oxide, red; UO₂; Uranium(IV)
m oxide: Uranium oxide (UO₂): Black

III. ANIMAL TOXICOLOGY DATA

A. Acute Toxicity

1. Oral Toxicity

supporting
data

4. Inhalation Toxicity

Rats (strain and size not given) were exposed to a single dose of 30 mg UO₂/kg (~1220 mg hr/m³)** of seven different particle sizes (N=6/fraction; no control) via intratracheal injection.⁽⁸⁾ Particle sizes were (mean diameter): 10, 7, 5, 3, 1, 0.6, and 0.2 μm. Weights were determined twice daily for the first 2 weeks and daily thereafter. After 1, 2, and 4 weeks, rats (N=1/group) were sacrificed and assessed for blood non-protein nitrogen (NPN), kidney function (determined by retention of phenolsulfonphthalein, PSP), and histological changes in the lung and kidney, and the uranium content of the lung. The maximum response was seen after one week, with values returning to normal after this. Toxicity varied inversely with the particle size. Exposure to particles of 0.2 μm diameter resulted in a body weight loss of 10.1% and loss of kidney function (99.5% of PSP retained vs. 45% in the 10 μm group). The 0.6 μm fraction cause a 7% weight loss, and retention of 92.5% of the PSP. The 1 μm fraction cause a 1.8% weight loss, and retention of 75% of the PSP.

Annual ERPG Documentation Set



2003 ERPGs UPDATE SET

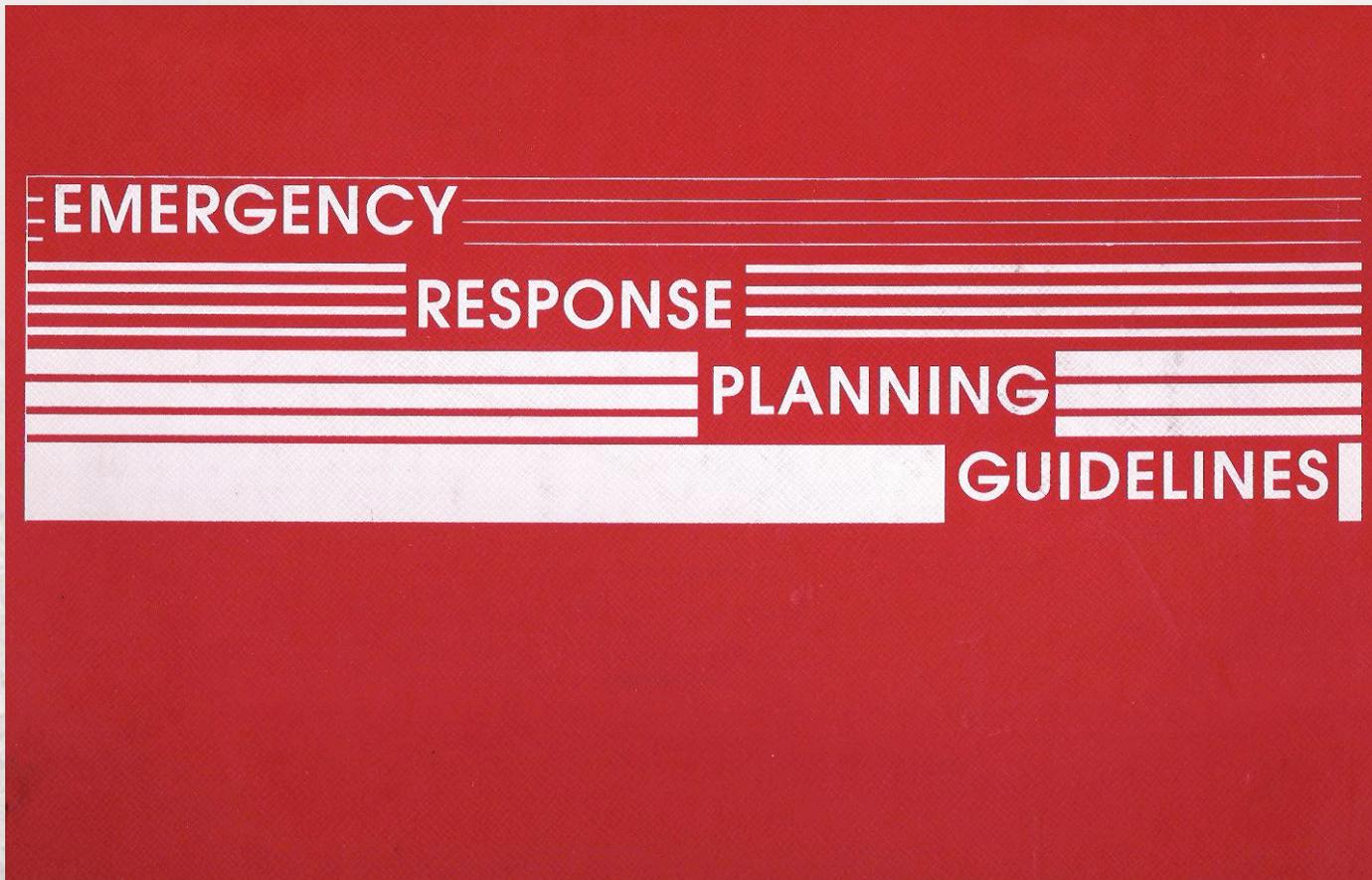
Includes:

Ethylidene Norbornene (*New*)

Nitrogen Dioxide (*New*)

Uranium Dioxide (*New*)

The ERPG Notebook



Current ERPG Document Status:

112 chemicals with ERPGs

18 more ERPGs in review
another 19 being balloted



**2003 & 2004
ERPG Chemicals**

23

2004 ERPG Update Set

CHEMICAL	CAS #	ERPG-3:	ERPG-2:	ERPG-1:
Acetic Acid	64-19-7	250 ppm	35 ppm	5 ppm
Dimethylamine	124-40-3	350 ppm	100 ppm	0.6 ppm
Dimethyl Sulfide	75-18-3	5000 ppm	1000 ppm	0.5 ppm
Glutaraldehyde	111-30-8	5 ppm	1 ppm	0.2 ppm
Hexachlorobutadiene	87-68-3	10 ppm	3 ppm	1 ppm
Isopropyl Chloroformate	108-23-6	20 ppm	5 ppm	Insufficient Data
Methanol	67-56-1	5000 ppm	1000 ppm	200 ppm
Monomethylamine	74-89-5	500 ppm	100 ppm	10 ppm
Phosphorus Trichloride	7719-12-2	15 ppm	3 ppm	0.5 ppm
Trimethylamine	75-50-3	500 ppm	100 ppm	0.1 ppm
Triuranium Octaoxide	1344-59-8	50 mg/m ³	10 mg/m ³	Insufficient Data
Vinyl Acetate	108-05-4	500 ppm	75 ppm	5 ppm
Vinyl Chloride	75-01-4	20,000 ppm	5,000 ppm	500 ppm
Acetaldehyde	75-07-0	1000 ppm	200 ppm	10 ppm
Carbon Tetrachloride	56-23-5	750 ppm	100 ppm	20 ppm
Chlorine	7782-50-5	20 ppm	3 ppm	1 ppm
Methyl Chloride	74-87-3	1000 ppm	400 ppm	Not Applicable
Titanium Tetrachloride	7550-45-0	100 ppm	20 ppm	5 ppm
Hydrogen Sulfide	7783-06-4	100 ppm	30 ppm	0.1 ppm
Uranium Hexafluoride	7783-81-5	30 mg/m ³	15 mg/m ³	5 mg/m ³
Methyl Iodide	74-88-4	125 ppm	50 ppm	25 ppm
2-Isocyanatoethyl Methacrylate	30674-80-7	1 ppm	0.1 ppm	Insufficient Data
Tetrafluoroethylene	116-14-3	10,000 ppm	1000 ppm	200 ppm

The Annual ERPG-WEEL Handbook

“The Handbook” was first published in 1996. It contains general concepts on hazard evaluation and dispersion models. It contains ERPG values but no ERPG documentation. The annual Documentation Set goes in the Red ERPG notebook.

The 2004 ERPG Handbooks can be purchased from the AIHA.

**Emergency
Response
Planning
Guidelines**

and

**Workplace
Environmental
Exposure
Level
Guides**

Handbook



A Publication of the
American Industrial Hygiene Association

Future ERPG-WEEL Handbook ?

Future ERPG Handbooks may expand in scope to include procedures from AIHA, ANSI, ACOEM and other agencies.

This may be how the industrial hygienists' role in emergency response planning & response organizations becomes standardized.

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