

Unseen risks in cemeteries, crematoria and funeral homes

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Session Outline

- General discussion about the known hazards as listed in the Work Health and Safety Queensland document *Guide for the funeral industry*
- *Most shouldn't come as a surprise...do you know of, or have experience with, these occupational health risks?*
- Observations from conducting respirable and inhalable dust monitoring at cemeteries and crematoria in the Brisbane city area
- *Some of the findings were unremarkable, others were surprising...*
- Questions



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Common hazards in the funeral industry

- **Manual tasks** (lifting, pushing, pulling, carrying, raising, lowering)
- **Infectious diseases** (hepatitis B and C, HIV, COVID-19*)
- ***Hazardous chemicals** (embalming fluids [formaldehyde, glutaraldehyde, glycols], cytotoxic drugs, cleaning agents, wood dusts, poisons, dusts [memorials, graves, cremation etc]#)
- **Work-related violence and aggression** (physical and psychological injuries, psychosocial stressors [fatigue, trauma etc])
- **Physical hazards** (noise, vibration, heat stress, UV, radiation [radioactive treatments], unstable memorials)
- *Non-exhaustive list.*

*WES standards apply



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Select workplace exposure standards (occupational health and hygiene)

Standard Name	TWA ppm	TWA mgm ³	STEL ppm	STEL mgm ³	Notes	Sources
Quartz (respirable dust) (aka RCS)	-	0.05	-	-	---(see Silica - Crystalline); Carc. 1A	Scraping the cremator refractory bricks (cremations), backfilling of graves with decomposed granite.
Glutaraldehyde; 1,5-Pentanedial;	0.10	0.41	-	-	Peak Limitation	Embalming fluids (alternative to formalin).
Formaldehyde (h)	1	1.2	2	2.5	Carc. 1B	Embalming fluids (mixed with methanol as formalin)
Sodium hydroxide	-	2	-	-	Peak Limitation	green cremation' (heated caustic body decomposition).
Phenol	1	4	-	-		embalming fluids
Ethylene glycol (particulate); Ethane-1,2-diol;	-	10	-	-		embalming fluids
Rouge dust (a)		10				Dusts from cremator and cremulator. Service of cremator tuyere's. Dusts from soils (burials).
2-Methoxyethanol; Ethylene glycol monomethyl ether; Glycol monomethyl ether; Methyl cello solve; Methyl glycol;	5	16	-	-		embalming fluids
Ethylene glycol (vapour) ;Ethane-1,2-diol;	20	52	40	104		embalming fluids
Methyl alcohol; Methanol;	200	262	250	328		embalming fluids (mixed with formaldehyde as formalin)

IARC Classification Ratings

Group 1	Carcinogenic to humans	121 agents
Group 2A	Probably carcinogenic to humans	89 agents
Group 2B	Possibly carcinogenic to humans	319 agents
Group 3	Not classifiable as to its carcinogenicity to humans	500 agents



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A question of dusts... which is more hazardous?



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Dust readings (limited data)

Activity	Inhalable Dust (ID) mg/m ³	Respirable Dust (RD) mg/m ³	Respirable Crystalline Silica (RCS) mg/m ³	Quartz Concentration %
(A) Drilling concrete benches	---	0.03	<0.03	<1
(B) Drilling marble rests	---	0.03	<0.03	<1
(C) Cleaning the ashes from the cremator	1.33	0.05	<0.04	<1
<i>Processing the ashes</i>	0.28	0.05	<0.01	<1
(D) Digging the grave	---	0.03	<0.03	<1
(E) Filling the grave	---	0.06	<0.04	<1
(F) Mowing the lawns	---	1.69	0.11	6
Workplace Exposure Standard	10.0	3.0	0.05	---

Red shading denotes level exceeds the Workplace Exposure Standard.
Orange shading denotes level is 50% to 100% of the Workplace Exposure Standard.
Green shading denotes level is below 50% of the Workplace Exposure Standard.

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*COVID-19 advice (June 2020) is this still the case..?

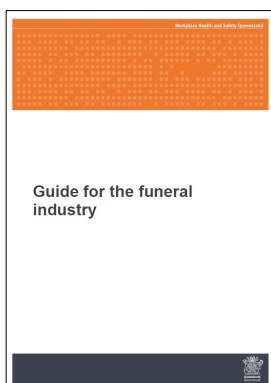
- From the office of the ACT CHO June 2020
 - Maintain standard, droplet and contact infection control procedures when handling or transporting bodies confirmed or suspected to have COVID-19
 - Wear appropriate personal protective equipment (PPE) at all times
 - A leak-proof body bag (double bagging may be required to prevent any leakage) labelled "COVID-19 – Handle with care" should be used to store and transport the body
 - Avoid unnecessary manipulation of the body that may expel air or fluid from the lungs
 - If an airway remains in situ, tape or occlude the opening of the airway prior to moving the body, so that air is not expelled from the lungs
 - Embalming of a body confirmed or suspected to have COVID-19 is not recommended
 - Family viewing of the deceased may occur; however family members should avoid any contact with the body
 - Maintain the recommended social distance from families and friends of the deceased



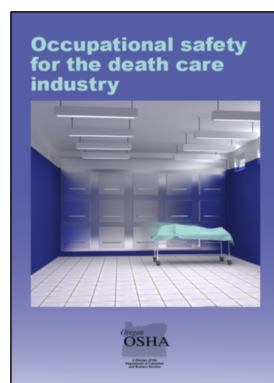
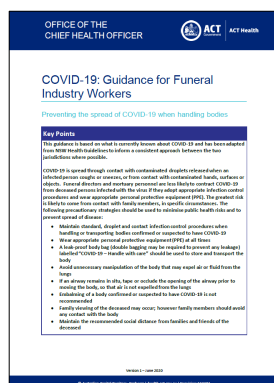
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Sources. (Just a couple...)



Guide for the funeral
industry



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