Occupational Health and Safety in the Millinery Studio

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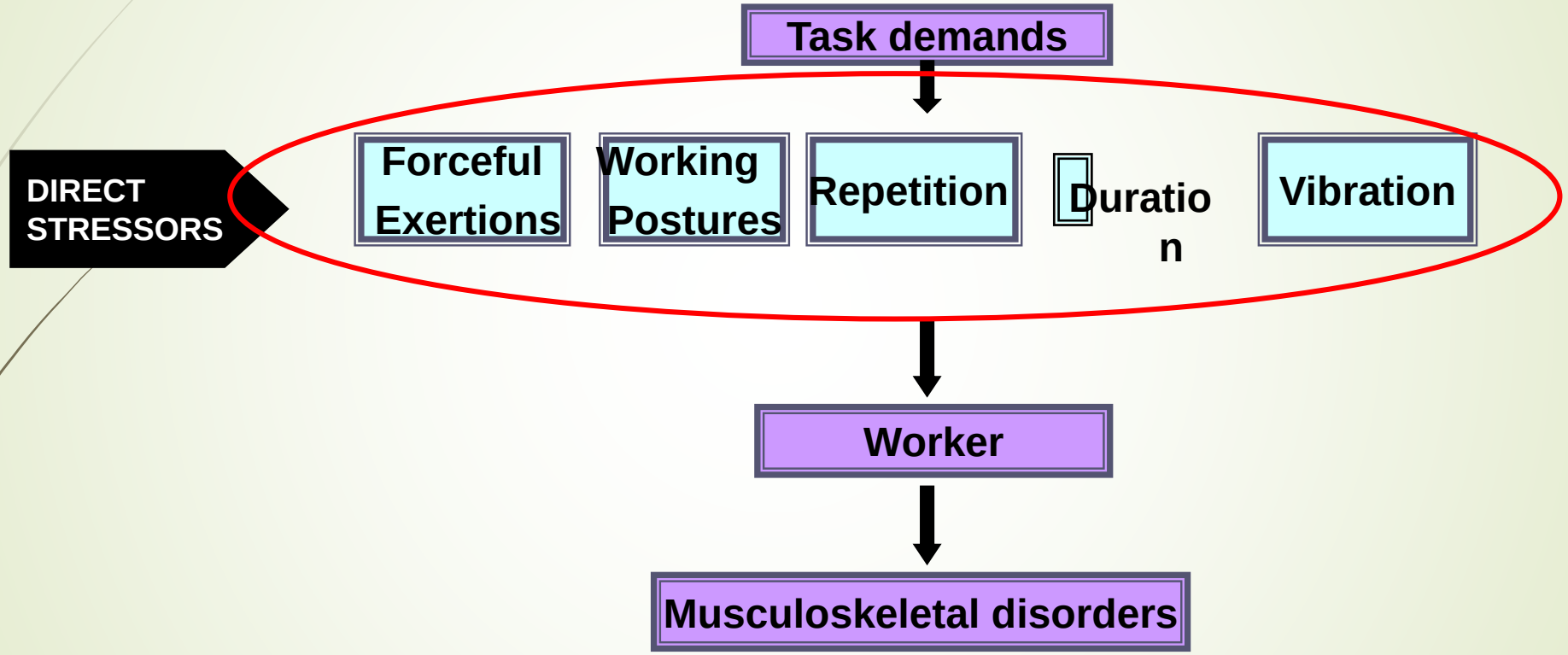
Topics for discussion

- Ergonomics in the Millinery Studio
- Sedentary work and health effects
- Hazardous Chemical usage in Millinery
- Questions / Discussion time

Manual tasks related injuries

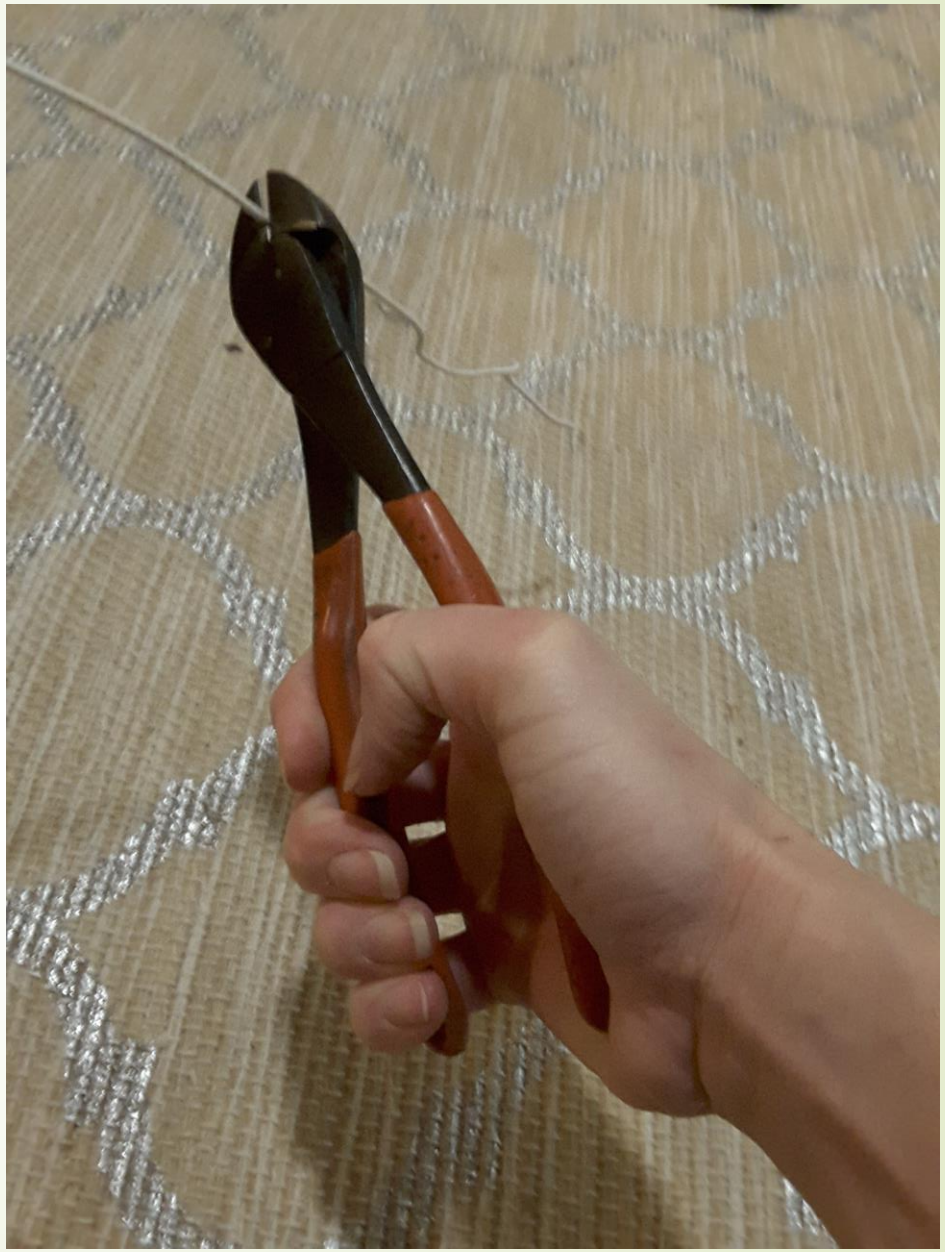
- Single, one off exposure:
  - due to maximum exertion or over load incident
  - quite rare.
- Repeated exposure:
  - ongoing wear and tear
  - variety of risk factors
  - more common.
- Combination of both of the above.

PErforM manual task risk factors



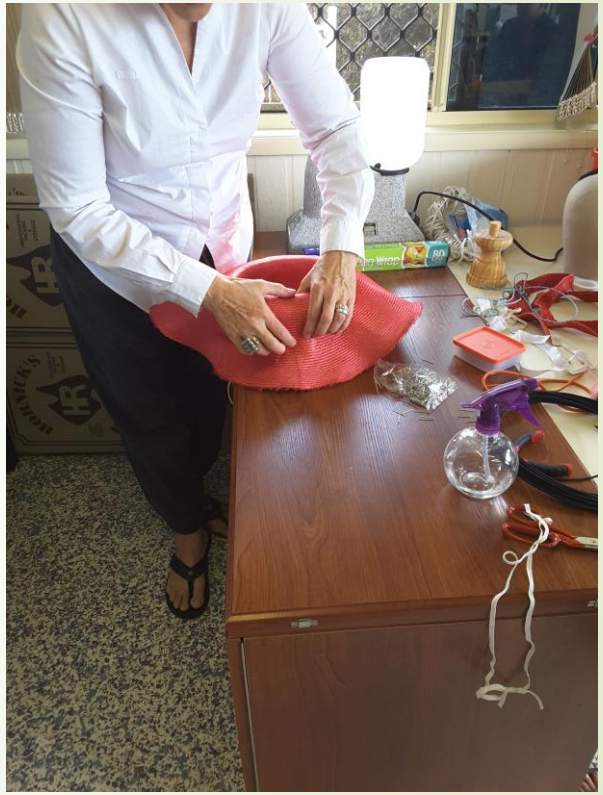
Risk factors: Force

- Greater force - greater risk.
- Speed and jerk.
- Factors that increase effort.



Risk factors: Working postures

- Awkward
- Static



Risk factors: Mechanical vibration

- Whole body vibration
  - vibration is transmitted through the whole body
- Hand/arm vibration
  - vibration is transferred to the hand/arm via eg use of a vibrating tool

Risk factors: Repetition

- Short cycle time
  < 30 seconds.

Risk factors: Duration

- Time taken to perform the task once or repeatedly without a break.
- Amount of time exposed to a risk factor.

Hierarchy of control

Elimination

Elimination

Engineering

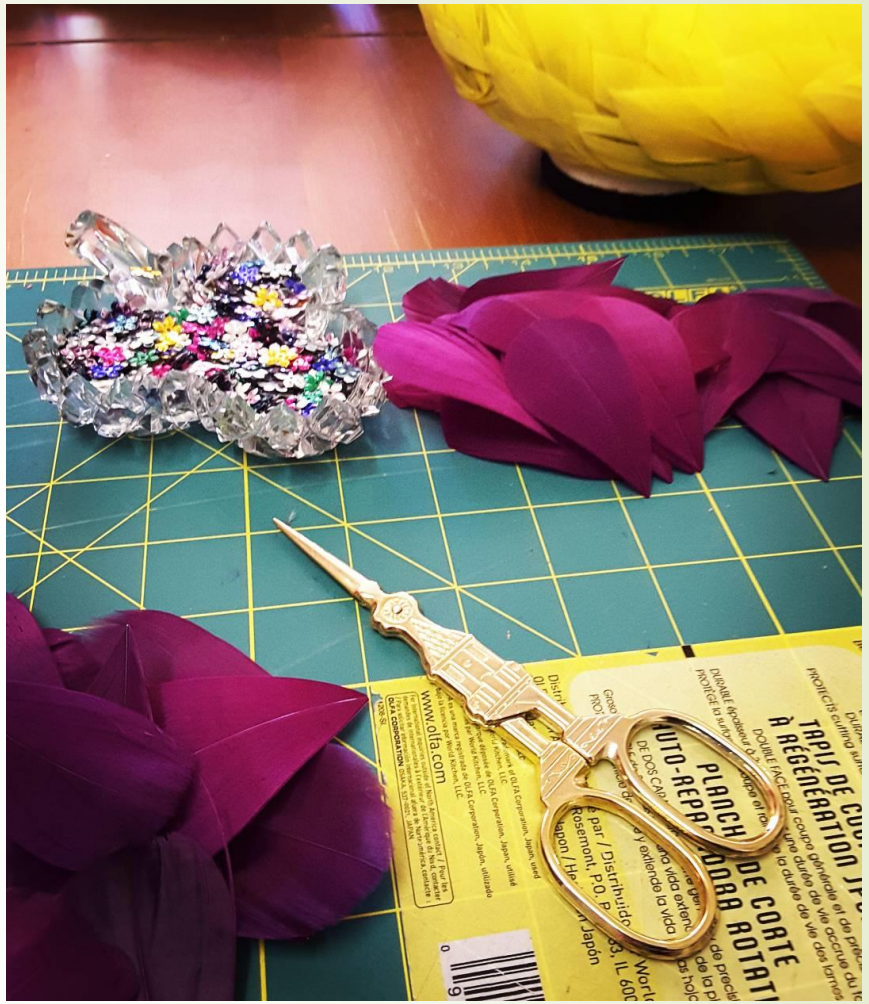
Hierarchy of control

Substitution

?

?

Administration



- Job rotation
- Change of workflow
- Task specific training
- Preventative maintenance program
- Personal Protective Equipment

Workspace Ergonomics sewing station design

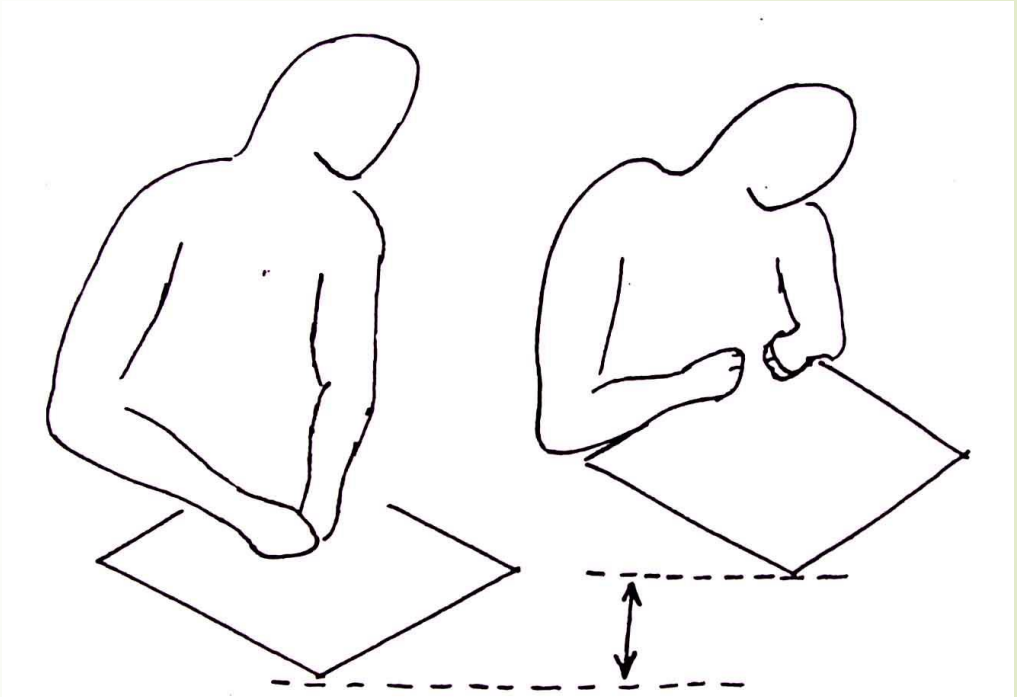


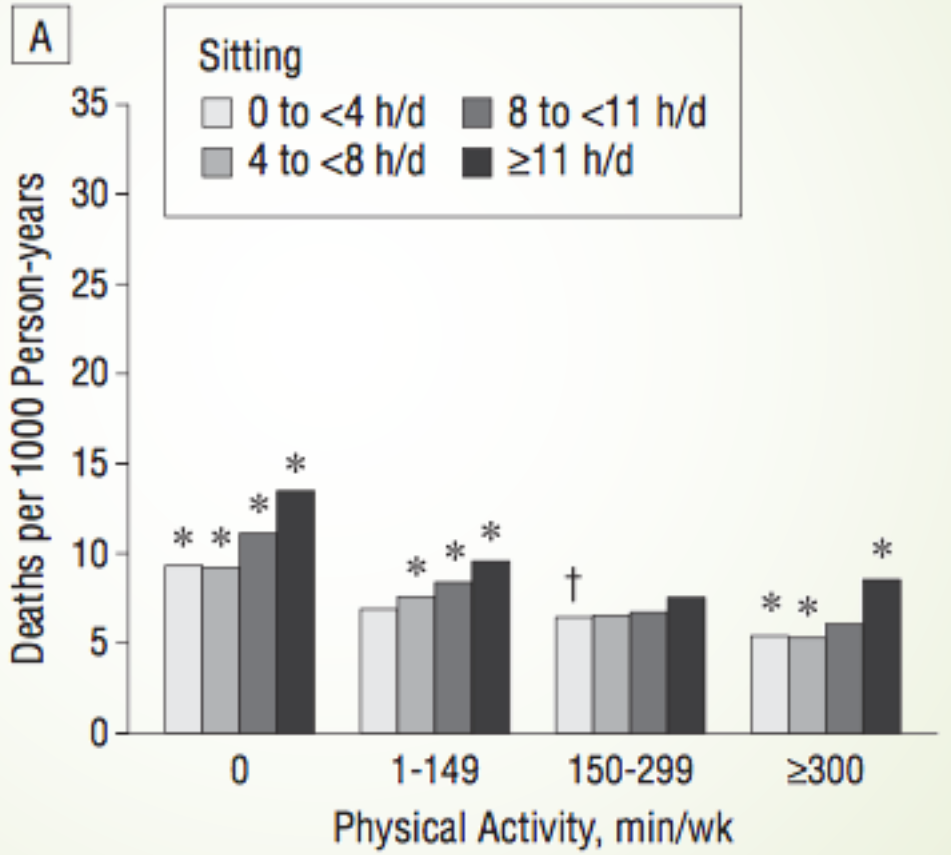
Figure 7. Higher work-bench for finer work.

Sedentary Behaviour and physical activity in the workplace

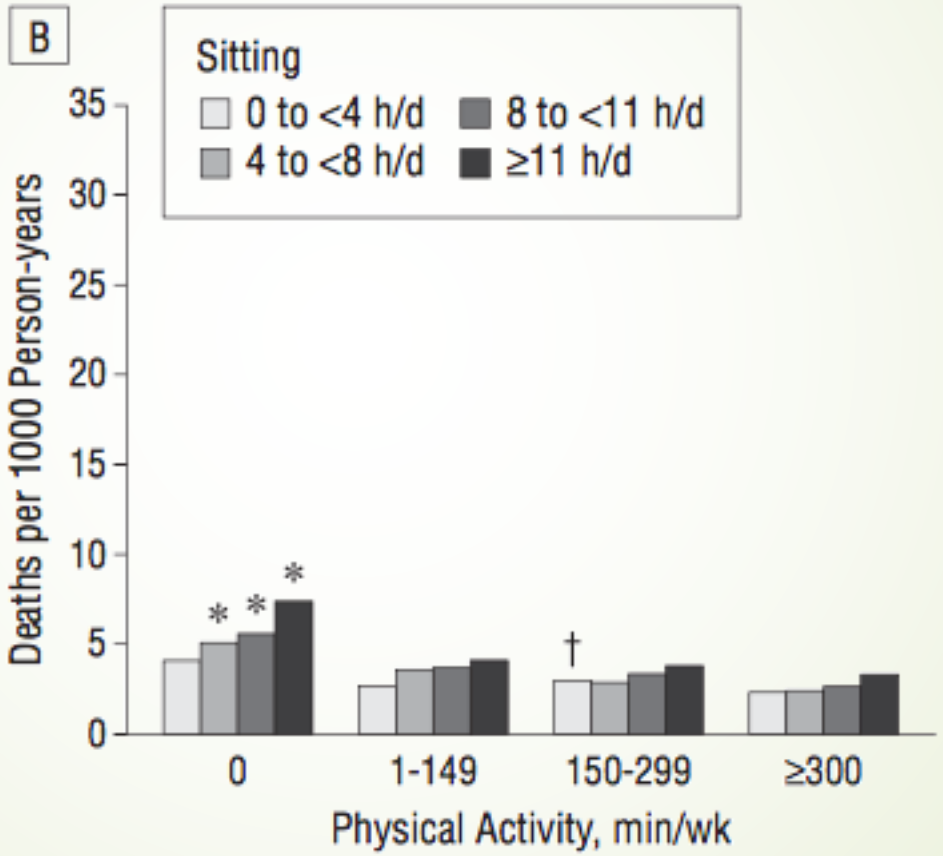
- **What is sedentary behaviour?**

- Physical inactivity vs. Sedentary behavior
  - Active couch potato
- Independent risk factor for:
  - CVD
  - Diabetes
  - Obesity
  - Mortality

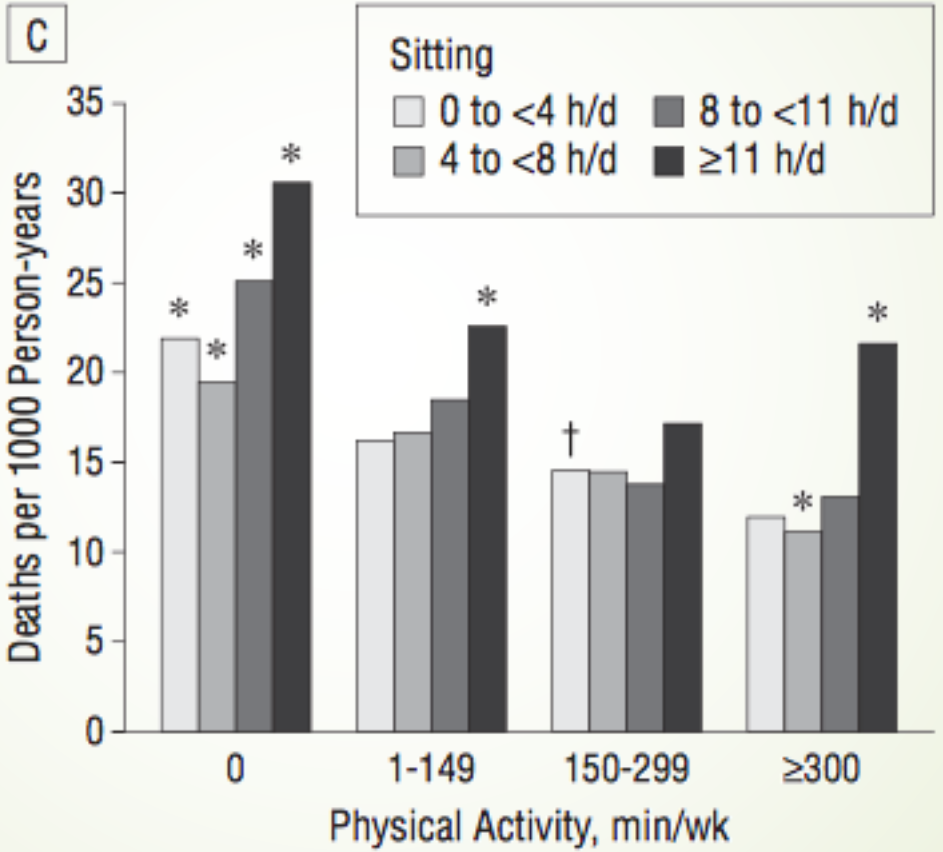
Independent risk factor



Independent risk factor



Independent risk factor



How much do we sit?

- More than 50% of the time when we are awake
- More than 75% when we are at work
    - Even higher in office workers

Hazardous Chemicals and substances

Chemwatch

Design Master - Super Silver

Design Master Color Tool

Chemwatch: 40-9409
Version No: 2.1.1.1
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 18/03/2014
Print Date: 27/04/2017
S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Design Master - Super Silver
Synonyms	Not Available
Proper shipping name	AEROSOLS
Other means of identification	Not Available

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Application is by spray atomisation from a hand held aerosol pack Use according to manufacturer's directions.

Details of the supplier of the safety data sheet

Registered company name	Design Master Color Tool
Address	PO Box 601 Boulder CO 80306 United States
Telephone	+1 303 443 5214
Fax	+1 303 443 5217
Website	Not Available
Email	vendoremailcheck@chemwatch.net

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Aerosols Category 1, Gas under Pressure (Compressed gas), Skin Corrosion/Irritation Category 2, Carcinogenicity Category 2, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)

quified petroleum gas; (L.P.G.)	65,000 ppm	2.30E+05 ppm	4.00E+05 ppm

riginal IDLH	Revised IDLH
0,000 ppm	1,300 [LEL] ppm
000 ppm	900 ppm
000 ppm	3,000 [Unch] ppm
ot Available	Not Available
000 ppm	800 [LEL] ppm
,000 [LEL] ppm	2,000 [LEL] ppm

ARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated mosphere may occur, could require increased ventilation and/or protective gear
gineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed gineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to ovide this high level of protection.
e basic types of engineering controls are:
ocess controls which involve changing the way a job activity or process is done to reduce the risk.
nclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ntilation that strategically "adds" and "removes" air in the work environment.

special equipment for minor exposure i.e. when handling small quantities.
THERWISE: For potentially moderate or heavy exposures:
Safety glasses with side shields.
NOTE: Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them.

e Hand protection below

ear general protective gloves, eg. light weight rubber gloves.
No special equipment needed when handling small quantities.
OTHERWISE:
For potentially moderate exposures:
Wear general protective gloves, eg. light weight rubber gloves.
For potentially heavy exposures:
Wear chemical protective gloves, eg. PVC. and safety footwear.

e Other protection below

special equipment needed when handling small quantities.
HERWISE:
Overalls.
Skin cleansing cream.
Eyewash unit.
The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.
ETHERICK: Handbook of Reactive Chemical Hazards.

Available

odified presentation of the:
nce Index".
bstance(s) are taken into account in the

	CPI
	A
	A
	B
	ketone

Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 5 x ES	AX-AUS / Class 1	-	AX-PAPR-AUS / Class 1

Continued...

hydrocarbon propellant	TOXICITY	IRRITATION	
	Inhalation (rat) LC50: >50000 ppm15 min[1]	Not Available	
	Inhalation (rat) LC50: >50000 ppm15 min[1]		
	Inhalation (rat) LC50: 35625 ppm15 min[1]		
	Inhalation (rat) LC50: 84.6875 mg/l15 min[1]		
	Inhalation (rat) LC50: 90.1875 mg/l15 min[1]		
	Inhalation (rat) LC50: 90.1875 mg/l15 min[1]		
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances		

CYCLOHEXANE	Bacteria mutagen
XYLENE	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. Reproductive effector in rats
METHYL ETHYL KETONE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. Methyl ethyl ketone is considered to have a low order of toxicity; however, methyl ethyl ketone is often used in combination with other solvents and the mixture may have greater toxicity than either solvent alone. Combinations of n-hexane with methyl ethyl ketone, and also methyl n-butyl ketone with methyl ethyl ketone may result in an increased in peripheral neuropathy, a progressive disorder of the nerves of the extremities. Combinations with chloroform also show an increase in toxicity.
ETHYLBENZENE	Ethylbenzene is readily absorbed when inhaled, swallowed or in contact with the skin. It is distributed throughout the body, and passed out through urine. It may irritate the skin, eyes and may cause hearing loss if exposed to high doses. Long Term exposure may cause damage to the kidney, liver and lungs, including a tendency to cancer formation, according to animal testing. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. Liver changes, utheral tract, effects on fertility, foetotoxicity, specific developmental abnormalities (musculoskeletal system) recorded.
HYDROCARBON PROPELLANT	inhalation of the gas
XYLENE & ETHYLBENZENE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
XYLENE & METHYL ETHYL KETONE & ETHYLBENZENE	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
ALUMINIUM FLAKE & HYDROCARBON PROPELLANT	No significant acute toxicological data identified in literature search.

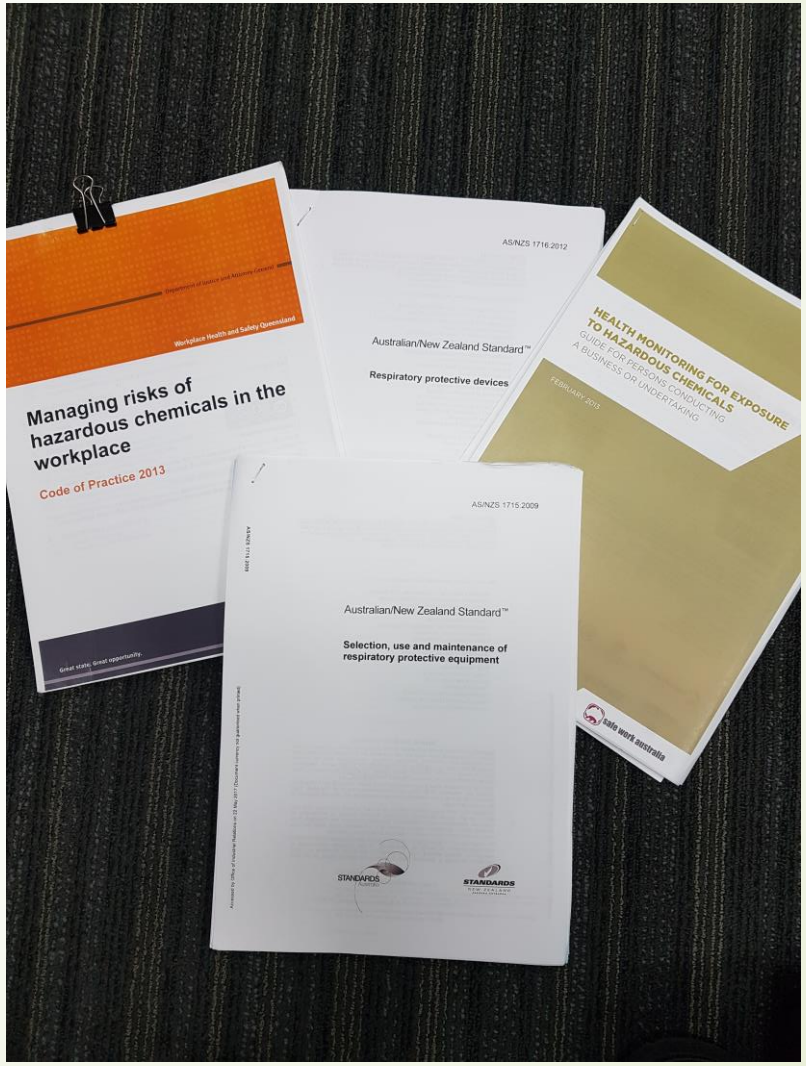
Acute Toxicity	⊘	Carcinogenicity	✔
Skin Irritation/Corrosion	✔	Reproductivity	⊘
Serious Eye Damage/Irritation	⊘	STOT - Single Exposure	✔
Respiratory or Skin sensitisation	⊘	STOT - Repeated Exposure	⊘
Mutagenicity	⊘	Aspiration Hazard	⊘

Legend: ✘ – Data available but does not fill the criteria for classification
✔ – Data available to make classification
⊘ – Data Not Available to make classification

Continued...

Personal Protective Equipment (PPE)

Resources available for Hazardous Chemicals



Thankyou

- Questions / Disussion