

CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH

COSHH ASSESSMENT CHECKLIST

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CHECK-LIST FOR THE CONTROL OF SUBSTANCES WHICH MAY BE HAZARDOUS TO HEALTH

QUESTION	ANSWERS/COMMENTS
1. Manufacturer/Supplier?	Unleaded glass enamels are supplied by a number of different manufacturers.
2. Trade name of product?	Unleaded vitreous glass enamels
3. Main chemical ingredient?	Borosilicate glass frit (80 – 100%)
4. Other chemical components?	Unleaded enamels do not contain lead. However, they will contain small quantities of insoluble chromium, cobalt, copper, nickel, antimony, cadmium and manganese compounds. These present minimal risk when handled carefully in the small quantities required. Titanium Dioxide Chromium Barium Sulphate Iron Oxide Copper oxides Cobalt oxides Cadmium oxides Zinc sulphides Antimony compounds Manganese compounds Arsenic compounds Barium compounds Cadmium pigments Cobalt compounds Nickel compounds Nickel monoxide

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5. Information from Data Sheet: Potential to cause harm? e.g. Toxic, Corrosive, Etc.	Inhalation Nickel monoxide is carcinogenic, only by the inhalation route Excessive exposure may cause damage to lungs and kidneys All enamels - symptoms of chronic lung disease Ingestion The products are of low solubility in body fluids and it is likely to be of low toxicity Eyes May cause physical irritation and inflammation Skin The products are not primary irritants, but as with any abrasive powder they may give rise to minor irritation. Some cobalt compounds cause dermatitis and sensitisation, but it is unlikely with these products Some people may become allergic to nickel compounds and develop long-lasting sensitivity Chemical or product name : enamel R20 - Harmful by inhalation R22 - Harmful if swallowed R25 - Toxic if swallowed R33 danger of cumulative effects R43 may cause sensitisation by skin contact R49 may cause cancer by inhalation R-phrases : R23 - Toxic by inhalation S13 keep away from food, drink and animal feeding stuff S20/21 when using do not eat, drink or smoke S22/23 do not breathe dust or fumes/spray S38 in case of insufficient ventilation wear suitable respiratory equipment S45 in case of accident or if you feel unwell seek medical advice immediately (show label where possible) State : Solid Dustiness : High Hazard group : D Quantity used : Small How many times a day ? 20 times a day How long does the task take ? 2 minutes
Flammability?	Appearance & Odour Coloured or white powders, odourless Flash point (°C) Not applicable Flammability Not applicable Explosive properties Non-explosive Oxidising properties None Specific gravity 3-5 pH value 7 (insoluble in water) Melting point (°C) Not available
OEL or MEL specified	Although cadmium pigments have a WEL of 0.03 mg/m³ (8hr TWA) and certain chromium compounds have a WEL limit of 0.05mg/m³ (8hr TWA), these compounds are present as minor constituents of the enamelling glass and these limits will not be reached in the school workshop. The other trace compounds have higher WEL values and these limits will not be approached.

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	UK occupational Exposure Limit	(EH40) Mg/m3 (8hr TWA)*	% in products	
	Antimony compounds (as Sb)	0.5	2	
	Cadmium pigments	0.03	8	
	Barium sulfate	2	<5	
	Cobalt compounds (as Co)	0.1	5	
	Nickel compounds (as Ni) (inorganic, water-insoluble)	0.5	3.5	
	Nickel monoxide (NiO)	Cat 1 carcinogen	>0.1	
	Dusts – total inhalable	10		
	Dusts - total respirable	4		
	Some enamels may have more than one Occupational Exposure Limit .			
CADMIUM persons handling the products regularly and who are exposed to significant amounts of dust should have regular health check.				
Protective equipment recommended? (Specify)	Eye protection – goggles Dust mask Disposable gloves			
Storage handling and disposal arrangements	Handling - Do not eat, drink, or smoke in areas where the material is used. Wash thoroughly after handling the material Storage - Store in dry area. Dispose in accordance with current waste Disposal regulations. Landfill is the most appropriate method.			

First aid	Inhalation Remove patient to fresh air, loosen tight clothing and seek medical attention Ingestion Do not induce vomiting, seek medical advice Eyes Wash immediately with copious amounts of water Skin Wash affected areas with water
Fire	Extinguishing - Media Suitable for surrounding fire conditions Special Exposure - In the event of a fire, the products may emit harmful or toxic fumes Personal protective equipment - None other than that which is required for surrounding fire conditions. Self contained breathing apparatus

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Accidental release	Leaks & Spills - Use suitable vacuum equipment where reasonably practicable, otherwise damp down and scoop into a receptacle Personal protective equipment - Respiratory protective equipment Handling Do not eat, drink, or smoke in areas where the material is used. Wash thoroughly after handling the material Storage Store in dry area
Handling & Storage	Wear appropriate protective clothing. Sweep up and place in closed containers for disposal. Ventilate area. Wipe up with a damp cloth. Finally flush area with plenty of water.
Routes of entering the body?	Inhalation Nickel monoxide is carcinogenic, only by the inhalation route Excessive exposure may cause damage to lungs and kidneys Symptoms of chronic lung disease Ingestion The products are of low solubility in body fluids and it is likely to be of low toxicity Eyes May cause physical irritation and inflammation Skin The products are not primary irritants, but as with any abrasive powder they may give rise to minor irritation. Some cobalt compounds cause dermatitis and sensitisation, but it is unlikely with these products Some people may become allergic to nickel compounds and develop long-lasting sensitivity
Effects on body (continued)	Acute toxicology LD50 Oral not known LD50 dermal not known LD50 inhalation not known Health effects All products may cause fibrosis of the lungs Lung or kidney damage Nickel monoxide is classified as a category 1 carcinogen, because there is enough evidence to link it to cancer in humans, but only by the inhalation route. Ecotoxicity - not known Persistence The products are chemically and physically stable and will persist in the environment
6. Proposed application?	Sifting dried enamels and wetlaying enamel as part of jewellery and other enamelled objects.

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7.	By Whom is the product to be used?	Products are used by the craft enamellers and jewellers.
8.	Does use foreseeably affect public or contractors	No
9.	How is the product used? (Brushing, spraying, mixing)	Sifting dried enamels or mixed with water and wetlaying enamels (wet laying)
10.	Has consideration been given to a safer substitute? If yes, what substitutes were considered?	Yes – None available

11.	Has a safe system of work been established? - If 'yes' give details	Yes – Wear protective clothing, gloves and work in well ventilated area. Read all instructions associated with product Dispose appropriately of all products after use.
12.	Precautions to be taken in its use? (Ventilation, etc.)	Adequate ventilation should be provided so that Occupational Exposure Limits are not exceeded. Protective clothing, gloves and goggles to be worn at all times.
13.	What information, training or instruction is intended to be given to Supervisors and Operatives?	Read all instructions and use in well ventilated area wearing protective gloves, eye wear and clothes. All users will be appropriately instructed on safety and use of the enamels. Standard guidelines for health and safety should be observed throughout all procedures.
14.	Who will be responsible for supervising the use of the substance?	Craft enamellers Workshop participants and workshop tutors

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NAME	
LOCATION	
NAME OF PERSON COMPLETING PART 1 : (BLOCK CAPITALS)	Julie Rattray
SIGNATURE : Julie Rattray	
DATE OF ASSESSMENT REVIEW	

COSHH REGULATIONS

WORK METHOD STATEMENT

PRODUCT :

FOR USE BY :

LOCATION :

METHOD STATEMENT

1. Read and follow instructions on the package.
Wear protective gloves, clothing and goggles when handling.
Work in well ventilated environment.
Follow Guild of Enamellers Guidelines for Health and Safety.
- 2.
- 3.