COSHH Risk Assessment

Section 1 – General Information			
Task/Activity:	**Localised repair of drain using no dig techniques**	**Ref:**	**ADS271021-1**
Assessors Name	**M Duffy Services**	**Assessment Date**	**27/10/2021**
Description of Task / Activity		**Next Review**	
Repairing of drains in situ using a 2 part resin and glass matting.		**Every 12 months**	X
		Every 6 Months	
		Immediately after any task/activity changes and/or incidents/accidents	
How often is the task undertaken (daily, weekly etc): as required varies with work demand			
Task Duration (approximately): 4 hrs	**Numbers of persons involved: 5**		

Section 2 – Hazardous Substance Information	
Hazardous Substance(s) used (trade name, ingredients etc):	**Isocyanic acid, polymethylenepolyphenylene ester (Polymeric MDI)2 Tris(2·chloro-1-methyl·ethyl) phosphate (TCPP) 4,4'-Methylenediphenyl diisocyanate, oligomeric reaction products with 2,4'-diisocyanato-diphenylmethane, 2,2'-methylenediphenyl diisocyanate and D-hydro-D-hydroxypoly [oxy(methyl-1,2-ethanediyl)]**
How is the Substance(s) used (Sprayed, diluted, brushed, mixed, applied by hand etc):	**Mixed and applied using a spreader**

Indicate the Hazard(s) associated with Hazardous Substances used:

						
Harmful to the environment	**Flammable**	**Oxidising**	**Corrosive**	**Acute Toxic**	**Health Hazard**	**Serious Health Hazard**
					X	X

Indicate what form(s) the Hazardous Substances take:

	X		X		X	
Gas	**Vapour**	**Mist/Aerosol**	**Fume**	**Dust**	**Liquid**	**Solid**

Indicate what Route(s) of Exposure the Hazardous Substances take:

X		X		
Inhalation	**Ingestion**	**Absorption (Skin)**	**Instillation (Eyes)**	**Penetration**

Workplace Exposure Limits (WEL) refer to MSDS and/or HSE Publication EH40

LTEL (8 hr TWA)	**PPM or Mg/M³**	**STEL (15 min)**	**PPM or Mg/M³**
	N/A		**N/A**

List the Risks to Health from Exposure to the Hazardous Substance(s)

List all relevant Hazard Statements:	**H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H319 Causes serious eye irritation**

	H332 Harmful if inhaled **H334 May cause allergy or asthma symptoms of breathing difficulties if inhaled** **H335 May cause respiratory irritation** **H351 Suspected of causing cancer** **H373 May cause damage to organs through prolonged or repeated exposure: respiratory system**
List all relevant Precautionary Statements:	**P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray** **P280 Wear protective gloves/ protective clothing/ eye protection/ face protection** **P285 In case of inadequate ventilation wear respiratory protection** **P302+P352 IF ON SKIN: Wash with plenty of soap and water** **P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing** **P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician**

Section 3 – Risk Assessment

Who Might Be Harmed?

Staff:	X	**Contractors:**	X	**Members of the Public:**	X
Visitors:	X	**Others: (please note)**			

Estimation of the Toxic Severity (Dose)

(1) Quantity Used:	Score	(2) Health Hazard:	Score
Small: Quantities up to 1g or ml	**1**	**Low Hazard:** Includes Hazard Statements: H313, H315, H316, H319, H320, H333, H335, H336	**1**
Medium: Quantities between 1 to 150g or ml	**2**	**Medium Hazard:** Includes Hazard Statements: H303, H311, H314, H317, H318, H332, H334, H371, H375	**2**
Large: Quantities over 150g or ml	**3**	**High Hazard:** Includes Hazard Statements: H300, H301, H302, H304, H305, H310, H330, H331, H340, H341, H350, H351, H360, H361, H362, H370, H372	**3**
Score 1:	**3**	**Score 2:**	**3**

Estimation of the Probability of Exposure

(3) Dustiness/Volatility of Substance	Score	(4) Duration of Exposure	Score
Low: Solids Materials that do not break up easily with little or no dusts observed during use Liquids Boiling Point over 150°C	**1**	**Short Exposure:** Short periods measured in minutes & where any WEL is not exceeded at any time	**1**
Medium: Solids Crystalline or granular materials with minimal dusts or dusts which settle out quickly Liquids Boiling Point between 50 & 150°C	**2**	**Medium Exposure:** Periods exceeding 1 hour but not exceeding 4 hrs	**2**
High: Solids Fine, light powders or fibres with dusts which remain airborne for long periods Liquids Boiling Point below 50°C All Gases, Mists, Fumes & Aerosols	**3**	**Long Exposure:** Full working shift (over 4 hrs) & if the WEL is exceeded at any time	**3**
Score 3:	**3**	**Score 4:**	**3**

Risk Rating

COSHH Risk Assessment

Score 1:	3	Score 3:	3	A	6	X B	6	=	36
+ Score 2:	3	+ Score 4:	3						
= Total A	6	= Total B	6						

0-4: Tolerable
5-12: Medium Risk
13-20: High Risk
21+: Extreme Risk

Scores of 0 – 4 indicate a tolerable risk where standard controls are in place (including following the manufacturers instructions and basic hygiene procedures)

Scores over 4 will require additional control measures (complete section 4)

Tasks scoring over 21 must be stopped immediately until further controls can be implemented

Are Additional Controls required?	YES [X]	NO [ ]
Is it possible to use a less harmful substance to do the work?	YES [ ]	NO [X]

Remember: if a safer alternative is available, consider using it, unless you have a valid reason for continuing to use your current substance.

Section 4 – Controls

Prevention of Exposure		
Can the Hazardous Substance(s) be eliminated from the process?	Yes [ ] No [X]	Give Details:
Are measures in place to exclude non essential personnel from the area?	Yes [X] No [ ]	Give Details: SIGNAGE IS USED AT AREAS PROHIBITING NON AUTHORISED PERSONS.
Control of Exposure		
Can the quantities of the hazardous substances be reduced?	Yes [ ] No [X]	Give Details:
Can the form of the Hazardous Substance(s) be changed to make it safer (i.e. substituting powder for pellets etc)?	Yes [ ] No [X]	Give Details:
Can the exposure time of workers be reduced?	Yes [ ] No [X]	Give Details:
Can natural ventilation in the work area be improved (i.e. opening windows etc)?	Yes [X] No [ ]	Give Details: MIXING AND APPLICATION OF PRODUCT CAN ONLY TAKE PLACE OUTSIDE IN THE FRESH AIR.

COSHH Risk Assessment

Is Local Exhaust Ventilation (LEV) required?	Yes [X] No [ ]	Give Details: ON INSTANCES WHERE THE PRODUCT IS BEING MIXED AND APPLIED IN A CONFINED SPACE OR STORE THE USE OF FORCED AIR VENTILATION WILL BE REQUIRED
Does any part of the process need to be partially or totally enclosed?	Yes [ ] No [X]	Give Details:
Administration Controls		
Do vulnerable persons need to be excluded from this activity or area (i.e. nursing mothers etc)?	Yes [X] No [ ]	Give Details: NO VULNERABLE PERSONS SCHOOL LEAVING AGE (under 18) OR EXPECTANT MOTHERS PERMMITED TO CARRY OUT THESE TASKS
Is any special training required for the task and/or the Hazardous Substance(s) used?	Yes [X] No [ ]	Give Details: ALL EMPLYEES TRAINED IN USE OF PRODUCT BY SUPPLIER AND ENDORSED BY EU SKILLS.
Are any warning signs, notices and/or barriers required?	Yes [X] No [ ]	Give Details: SIGNS WITH DO/ DO NOT REQUIREMENTS HAVE TO BE PLACED WITHIN THE WORKS LOCATION.

Section 4 – Controls

PPE - Eye/Face Protection (Instillation & Absorption)			
 Goggles	Type & Standard: EN 166 – 3A	 Full Face Visor	Type & Standard:
RPE - Respiratory Protective Equipment (Inhalation & Ingestion)			
 Dust Mask	Type & Standard:	 Respirator	Type & Standard:
 BA Set	Type & Standard:		
PPE - Skin & Body Protection (Absorption)			
 Gloves X	Type & Standard: Nitrile gloves (EN 374)	 Overalls	Type & Standard: EN 13034:2005 (Type 6 and Type PB 6)
 Safety Footwear	Type & Standard: STEEL TOE CAPPED LACED BOOTS EN ISO 20345:2011	 Other	Type & Standard:

Section 5 – Additional Controls

Do measures need to be taken to control sources of ignition?	Yes [X] No [ ]	Give Details: NO SMOKING PERMMITED DURING ANY TIME USING THIS EQUIPMENT. THE MACHINERY IS REQURED TO BE LEFT FOR 10 MINS BEFORE FUELLING TAKES PLACE
Are there any materials that will create an additional hazard if exposed to the Hazardous Substance(s)?	Yes [ ] No [X]	Give Details: ACIDS, ALCOHOLS, AMINES, WATER, ALKALINES
Is Exposure Monitoring required (in line with Reg 10 of COSHH)?	Yes [ ] No [X]	Give Details:
Is Health Surveillance required (in line with Reg 11 of COSHH)?	Yes [ ] No [X]	Give Details:

	Yes	No
Lone Working Allowed?		X
Permit to Work Required?		X

Section 6 – Safe System of Work

Detail how the task will be completed safely:

NO SMOKING PERMITTED

1. Don appropriate PPE for prescribed works.
2. Barrier off the working area, always position warning signs in prominent positions, set up ground protection sheet.
3. Operatives are required to allow plenty of room within the barriered zone for movement and works.
4. Remove all materials from drain repair kit, measure out matting and cut to desired length and width ensuring an area of overlap of 3 inches. Wrap packer with polythene and secure in place with tape or elastic bands. Burst internal seal in 2 part kit and agitate bag to ensure even mixture of contents (generally 20 – 60 seconds).
5. Pour mixture onto matting and smooth out using kits spatula, this is required on both sides. Then wrap matting around packer and secure with elastic bands.
6. Once kit has went off (cured) remove all equipment from drainage line
7. On completion, all work area will be tidied to client's satisfaction and any waste will be disposed of in line with local plastic disposal requirements.

Equipment/Stores Required:

List all stores and/or equipment required for the task:

1. PRODUCT TO REMAIN IN PACKAGING UNTIL REQUIRED TO BE USED
2. LOW FLOW COMPRESSOR
3. PACKERS
4. PLASTIC SHEETING

5. **RUBBLE BAGS FOR WASTE PRODUCTS**
6. **GENERATOR**
7. **CCTV UNIT**
8. **AIR RODS**
9. **GAZEBO (WEATHER DEPENDANT)**

Section 7 – Emergency Information

What actions should be taken in the event of any fires involving the substance?

Extinguishing media

Suitable extinguishing media Foam, CO2 or dry powder. Water spray may be used if no other available and then in copious quantities. Unsuitable extinguishing media High volume water jet

Special hazards arising from the substance or mixture

Carbon dioxide, carbon monoxide, hydrogen cyanide, nitrogen oxides, isocyanate. The substances/groups of substances mentioned can be released in case of fire.

Advice for firefighter

Reaction between water and hot isocyanate may be vigorous. Prevent washings from entering water courses, keep fire exposed containers cool by spraying with water.

Special protective equipment

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Safety boots, gloves, safety helmet and protective clothing should be worn.

Further information

In the event of fire and/or explosion do not breathe fumes. Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. Due to reaction with water producing CO2 gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if over heated.

Fire Extinguisher type(s) that can't be used?	HIGH VOLUME WATER JET.

First Aid: What actions should be taken if the substance is:

Inhaled: **If inhaled, remove to fresh air. If not breathing, give artificial respiration.** **Get medical attention immediately**	**Ingested:** **DO NOT Induce the patient to vomit, medical advice is required. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water**
In Contact with the Skin: **In the event of contact with the skin, preferably wash alternately with a cleanser based on polyethylene glycol and with plenty of warm water and soap. Consult a doctor in the event of a skin reaction. Wash the less clothing before reuse. Clean shoes thoroughly before reuse**	**In Contact with the Eyes:** **Hold the eyes open and rinse with water for a sufficiently long period of time (at least 10 minutes). Get medical attention immediately.**

Spillages: How should accidental release/spillages of this substance be dealt with?
Personal precautions PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES IMMEDIATELY CONTACT EMERGENCY PERSONNEL. EVACUATE THE AREA. KEEP UPWIND TO AVOID INHALATION OF VAPOURS. CLEANUP SHOULD ONLY BE PERFORMED BY TRAINED PERSONNEL. KEEP UNAUTHORIZED PERSONS AWAY. FOR NON-EMERGENCY PERSONNEL REMOVE UNAFFECTED PEOPLE. INFORM THE RELEVANT EMERGENCY SERVICES AND AUTHORITIES. FOR EMERGENCY RESPONDERS PEOPLE DEALING WITH MAJOR SPILLAGES SHOULD WEAR FULL PROTECTIVE CLOTHING INCLUDING RESPIRATORY PROTECTION. USE SUITABLE PROTECTIVE EQUIPMENT. **Environmental precautions** DO NOT ALLOW CONTAMINATED EXTINGUISHING WATER TO ENTER THE SOIL, GROUND-WATER OR SURFACE WATERS. AVOID DISPERSAL OF SPILT MATERIAL AND RUNOFF AND CONTACT WITH DRAINS AND SEWERS **Methods and material for containment and cleaning up** Absorb spillages onto sand, earth or any suitable adsorbent material. Leave to react for at least 30 minutes. Do not absorb onto sawdust or other combustible materials. Contaminated absorbent material must be handled as hazardous waste in accordance with EU and regional hazardous waste regulations European Waste Catalogue code: 08 05 01. Wash the spillage area with water.

Section 8 – Summary				
Have the persons completing this task been provided with sufficient information and training* to complete it safely?	**YES**	**X**	**NO**	
Are all of the identified controls in place and effective?	**YES**	**X**	**NO**	
Are all hazards to health adequately controlled?	**YES**	**X**	**NO**	
*** As a minimum, ensure a copy of this assessment (and any relevant MSDS) is available to persons carrying out this task**				

Section 9 – Document Control / Authorisation		
Checked and Authorised By (Name) :	**Checked and Authorised By: (Sign)**	**Date:**
Matthew Duffy Grad IOSH	*M. Duffy*	27/10/2021

Section 10 – Record of Training
The following people have been inducted on this COSHH Assessment and associated Safe System of Work (SSoW) and have been given the opportunity to ask questions. They agree to comply with the specified arrangements and control measures and will seek further advice if the work activity changes and/or the agreed controls cannot be implemented for any reason.

COSHH Risk Assessment

Name	Date	Signature

- **This form aids in assessing the risks associated with the use of chemicals and other substances hazardous to health**
- **It does not address the risks associated with biological agents or ionising radiation**
- **With respect to DSEAR, this form may be used to assess risks arising from small scale operations where hazard zoning is not necessary and the controls required largely mirror those in the COSHH Regulations**
- **This form is not suitable for assessing flammability and/or explosion risks from large scale operations or where hazard zoning is required (as this will require a more detailed assessment)**