

Hazard/threat category	Sub-category
Industrial accidents and environmental pollution	Toxic chemical release
Hazard and threat description, plus scale	Risk reference number
Up to 3km from site causing up to 50 fatalities and up to 2000 casualties	H9
Date of revision	Next review
November 2007	November 2008
Version	2
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1. Overview of hazard or threat

Definition - Uncontrolled or malicious release of toxins beyond site boundary. The physical dispersal limits of solids or liquids indicate that the primary risk is from airborne pollution, as gas, vapour, liquid droplets or particulates/powders. The hazard may be transient or persistent in the environment. A secondary risk is represented by liquid run-off, where there is the risk of entry into water courses or aquifers.

Potential causes – fire, explosion, leak, or deliberate release

Public health impact may be immediate or delayed onset (risk of undetected small scale pollution leading to late onset problems - eg., groundwater pollution from petrol stations, or Minamato Bay mercury poisoning)

Fire (& possibly explosion) may generate unpredictable secondary combinations of compounds through mixing or partial combustion of primary materials. E.g., fire in plastics factory producing airborne chlorine and cyanide compounds.

2. Key historical evidence

The major incidents database indicates that a limited number of incidents have been recorded globally, of which the majority were transport accidents. The primary source of risk is therefore considered to be the movement of hazardous materials through Thames Valley, rather than fixed sites in, or adjacent to, our area.

For the purposes of commonality, fixed sites that may pose a risk under Risk Reference Number H9 have been equated to those that fall within the reporting requirements of the COMAH (Control Of Major Accident Hazards) regulations, 1999, as 'Lower tier' sites. These exclude MOD premises, licenced nuclear installations and some other premises.

As of November 2005, there are

- 11 declared Lower Tier COMAH sites in the Thames Valley area. Lower Tier COMAH sites are required to prepare a Major Accident Prevention Policy (MAPP).
- Information received from HSE indicates that only two of these sites present a toxic chemical release risk. One presents a liquid

spill risk only. The other has a planning consultation zone extending to a maximum of approximately 600m from the site boundary.

3. Likelihood

Hazard	Outcome description	Likelihood
Toxic chemical release	Up to 3km from site causing up to 50 fatalities and up to 2000 casualties	1

4. Impact

Summary

Hazard	Outcome description	Impact			
		Health	Social	Env	Econ
Toxic chemical release	Up to 3km from site causing up to 50 fatalities and up to 2000 casualties	4	4	5	3

Details

Impacts
Primary
Airborne pollution
Major environmental contamination of land, surface water and/or groundwater
Major impact on flora and fauna
Secondary
Possible impact to surface and/or groundwater abstractions used for industry, agriculture and potable supply
Liquid pollution of water courses/aquifers

5. Vulnerability and resilience

Static sites controlled through regulation. Transport risks controlled by regulation, but vulnerable to accident or deliberate action at any point on journey. Deliveries to notifiable sites fall under those regulatory

requirements only when on site – an accident outside the factory gate is not required to be covered in pre-planning.

6. Mitigation and control measures

Sites falling within the regulations are required to report particulars to the appropriate enforcing authority Site and produce a MAPP.

Exemptions include Crown premises, MOD property, and licenced nuclear installations.

7. Overall assessment

Category	Sub-category		
Industrial accidents and environmental pollution	Toxic chemical release		
Outcome description	Impact	Likelihood	Risk
Up to 3km from site causing up to 50 fatalities and up to 2000 casualties	4	1	Medium

Controls in place

Requirement to report particulars to enforcing authorities
BFRS OC 62/1/1, Chemical waste disposal; OC 11/2, Incidents involving hazardous substances; OC 11/30, Major Incidents
Buckinghamshire County Council Emergency Plan.
Oxfordshire County Council Emergency Plan
Aylesbury Vale District Council Emergency Plan.
Chiltern District Council Emergency Plan.
South Bucks District Council Emergency Plan.
Wycombe District Council Emergency Plan.
Milton Keynes Council Major Incident Guide
Oxfordshire, Royal Berkshire & Two Shires Ambulance NHS Trust Major Incident Plans
Royal Berkshire Hospital NHS Trust Major Incident Plan
Heatherwood & Wexham Park Hospitals NHS Trust Major Incident Plan
Berkshire Healthcare Trust Major Incident Plan
Berkshire Primary Care Organisations Major Incident Plan and Operational Response Manuals
Buckinghamshire Hospitals NHS Trust Major Incident Plan
Buckinghamshire Primary Care Organisations Major Incident Plan
Buckinghamshire Mental Health Trust Major Incident Plan
Milton Keynes Hospital NHS Trust Major Incident Plan
Oxford Radcliffe Hospitals NHS Trust Major Incident Plan
Nuffield Orthopaedic Clinic Major Incident Plan
Oxfordshire Primary Care Organisations Major Incident Plan
Oxford Mental Health Trust Major Incident Plan
Thames Valley Strategic Health Authority Major Incident Plan
Environment Agency Incident Management Plans; Environment Agency 24/7 incident response
SBC emergency plan, RBWM emergency plan, WDC emergency plan, BFBC emergency plan, Reading emergency plan, WBC MIP, Permits & Inspections of some key premises
Thames Valley Police Emergency Procedures Manual
ACPO Emergency Procedures Manual

Additional risk treatment required

1. Confirmation of dissemination of reported site information to appropriate Category 1 responders.
2. Identification of principal transport hazards (air, rail, road, water) –
 - Destination in TV area; transiting through TV area; originating in TV area.
 - Identification of principal transport choke points where incident could create abnormal impact – e.g., transport node where road, rail and air interchanges are coterminous (Daventry International Rail Freight Terminal, Heathrow/M4/M25, etc).

