

COSHH Risk Assessment Form

1) Department: MRI

Ref no:

Substance / Activity

Substances: Gadolinium-based contrast agents (GBCAs). Please inform MRI Physics if any GBCAs are being used that are not included in this list.

- Dotarem (Gadoteric acid)
- Clariscan (Gadoterate)
- Gadovist / Gadavist / Gadograf (Gadobutrol)
- Primovist / Eovist (Gadoxetate disodium)
- Magnevist / Magnevistan / Magnograf (Gadopentate dimeglumine salt)
- MultiHance (Gadobenate dimeglumine)*
- ProHance (Gadoteridol)*

Work Activity: The GBCAs listed above are required for certain MRI examinations to enhance body tissues for diagnostic purposes. Most contrast agents are injected intravenously but may also be administered intraarticularly. Magnevist is only licensed for intraarticular administration.

*Safety Data Sheets only available for the active ingredients rather than the finished pharmaceutical products.

Is there a safe system of work for the activity?

Yes

Can the hazardous substance be substituted with a safer alternative?

No

Product / Trade Name / Mixture etc	Hazard Classification (Corrosive, Irritant, Toxic, Hazardous to the environment, Health Hazard, Explosive, Oxidising, etc)	Chemical Nature (Aerosol, dust, fume, gas, liquid, powder, etc)	Route of Entry / Exposure (Absorption, Ingestion, Inhalation, Injection, Splash)
Dotarem (Gadoteric acid)	Irritant	Liquid	Absorption (skin or eye contact) or ingestion
Clariscan (Gadoterate)	None		
Primovist / Eovist (Gadoxetate disodium)			
Magnevist / Magnevistan / Magnograf (Gadopentate dimeglumine salt)			
Gadovist / Gadavist / Gadograf (Gadobutrol)	Hazardous to the environment		
MultiHance (Gadobenate)	Irritant	Safety Data Sheet only available for	

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dimeglumine)*		the active ingredients (powder) but finished pharmaceutical product is liquid	
ProHance (Gadoteridol)*			

Individuals or groups exposed	Radiographers, Healthcare Support Workers, Doctors and/or Nurses
Duration of exposure eg. hours / day	Work activity lasts <2mins per patient on average. Exposure should not occur.
Estimated level of exposure*	Low

*Contact Occupational Hygienist / Health & Safety Practitioner for advice if required

Does the substance have a Workplace Exposure Limit? (WEL)	No
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*Contact Health & Safety Practitioner for advice if required

Is a Safety Data Sheet Available?	Yes
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2) Existing Precautions

Summarise current controls in place Include any procedures for Storage, Transport, Handling, Disposal and Maintenance as well as the general use of the substance.	Describe how they might fail to prevent adverse outcomes.
<p>Use of appropriate PPE (gloves) when handling or injecting.</p> <p>Any spillages to be highlighted to all staff in immediate vicinity until spillage is removed such as to avoid slips and falls</p> <p>Dispose empty vials and injecting material as sharps waste</p> <p>Dispose unused vials as pharmacy waste</p> <p>Ensure staff are aware of how to safely dispose of the vials and its contents should it become be damaged or broken. This might be through MR local rules, separate guidance (e.g. a SOP) or educational briefing.</p> <p>Keep away from children.</p> <p>Do not use drug beyond expiry date.</p>	<p>There may be some circumstances whereby small amounts could come into contact with clothing, exposed skin or the eyes or mouth</p> <p>Adverse outcomes would only be possible if the GBCA vial develops a leak or is damaged (e.g. dropped) or some other spillage. However, this is not in itself an adverse outcome. The following would need to also occur in addition to the above for an adverse outcome to occur.</p> <p>Personal protective equipment used during handling or disposal failed.</p> <p>The appropriate disposal and cleaning protocol was not known or was not followed.</p> <p>Someone was able to ingest the liquid.</p>

Emergency Procedures	
<u>First Aid</u>	<u>Spillages</u>
Remove contaminated clothing immediately.	Avoid contact with skin and eyes (use appropriate PPE). Clean up small spills with

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Eye Contact: In case of contact, immediately flush and rinse eyes with plenty of water for at least 15 minutes. Seek medical advice if irritation develops.

Skin Contact: Wash exposed area with water and soap. Get medical advice if irritation develops.

Ingestion: Advice varies depending on agent used:

Dotarem: Do not give water to drink, do not induce vomiting and seek medical advice.

Clariscan: Drink water to dilute the swallowed solution. Seek medical advice if large quantity (more than 1 litre) has been consumed.

Gadovist, Primovist & Magnevist: If swallowed, seek medical advice immediately and show the container or label.

MultiHance and ProHance: Rinse mouth with water. Do not induce vomiting, unless recommended by a doctor. Never give anything by mouth if the person is not conscious. If you feel unwell, seek medical assistance. It may cause disorders of the gastrointestinal tract, with nausea, diarrhoea and vomiting

Inhalation: Not applicable for Dotarem or Clariscan. Remove to fresh air. Seek medical assistance immediately.

water and a moist cloth or paper towel. Larger spills collect with absorbent material and transfer in a labelled container. Take appropriate precautions when broken glass is present.

Do not release in drains or surface water.

Comply with disposal regulations.

Level of Risk

Is the control of this risk adequate? Give more than one risk level if the assessment covers a range of circumstances. You can use the 'matrix' to show how 'likelihood' and 'consequences' combine to give a conclusion. Also, be critical of existing measures: if you can think how they might fail, or how they could be improved, these are indications of a red or orange risk.

Risk Matrix

<u>Likelihood</u>	<u>Impact / Consequences</u>				
	Negligible	Minor	Moderate	Major	Extreme
Almost Certain	Medium	High	High	V High	V High
Likely	Medium	Medium	High	High	V High
Possible	Low	Medium	Medium	High	High
Unlikely	<u>Low</u>	Medium	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

Very High
 High
 Medium
 Low

Health Surveillance / Atmospheric Monitoring	
Is Health Surveillance or Atmospheric Monitoring of staff required? (If yes, contact the Occupational Health Service/ Occupational Hygienist)	No

New & Expectant Mothers	
Are additional control measures required for new & expectant mothers?	No
If yes, please specify:	

3) Action Plan - if risk level is High (Orange) or Very High (Red)

Use this part of the form for risks that require action. Use it to communicate, with your Line Manager or Risk Coordinator or others if required. If using a copy of this form to notify others, they should reply on the form and return to you. Check that you do receive replies.

Describe the measures required to make the work safe. Include hardware – engineering controls, and procedures. Say what you intend to change. If proposed actions are out with your remit, identify them on the plan below but do not say who or by when; leave this to the manager with the authority to decide this and allocate the resources required.

Proposed actions to control the problem List the actions required. If action by others is required, you must send them a copy	By Whom	Start date	Action due date

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4) Action by Others Required - Complete as appropriate: (please tick or enter YES, name and date where appropriate)

Report up management chain for action	
Report to Estates for action	
Contact advisers / specialists	
Alert your staff to problem, new working practice, interim solutions, etc	

	Designation	Initial Review Date	Review
Assessor Blair Johnston	Clinical Scientist (MRI Physics)	16/7/20	As per QPulse record
Manager John McLean	Deputy Head of MRI Physics		

5) Staff Information and awareness

Processes for ensuring staff are aware of the COSHH Risk Assessment. Confirm which will apply:

- Induction processes
- Departmental training
- Departmental meetings
- Health and Safety Committee
- Other local processes (please specify):
 - Put onto the QPulse System and MRI Physics website. MRI modality lead radiographers to be informed and to cascade information to all relevant staff.