

Interspill 2012: HNS session

Are SDS/MSDS relevant in case of chemical spills at sea?

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HNS¹ Maritime Transport

The global trade of HNS makes the maritime transport of HNS cost effective.

The maritime transport of HNS has inherent risks associated.

Particulars of Maritime Transport:

- Large quantities of HNS on board;
- Carriage of incompatible substances;
- Long distance transport.



MCA, UK

¹HNS Hazardous and noxious substances

HNS Maritime Transport

Definition and prescription of design and building standards for ships and equipment for the carriage of chemicals.

Definition and prescription of cargo operations:

- Loading / unloading of cargo;
- Stowage requirements.

Emergency operations.



Complexity of HNS response operations

HNS encompasses many different substances with different behaviours.

HNS bulk transport:

- Large quantities of chemicals on board;
- In case of incident the substance(s) will be directly released into the environment.



HNS packaged:

- Small quantities on board;
- The container/package might delay/prevent the release of the substance(s) into the environment.



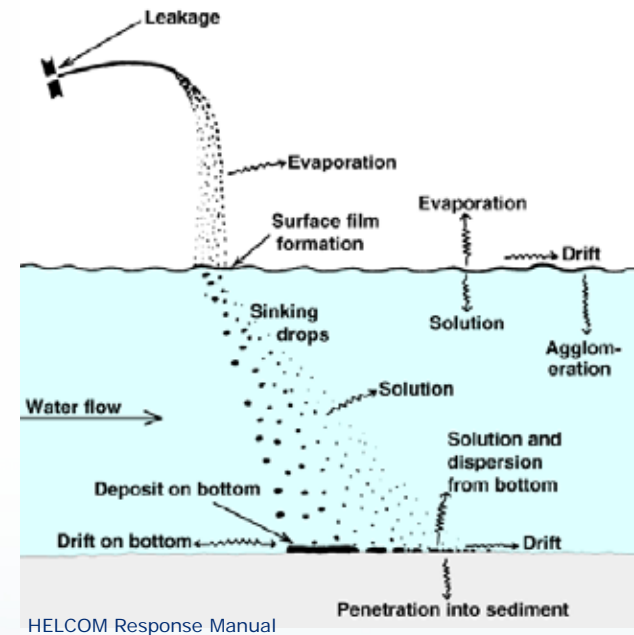
Limitation of HNS response operations

Response operations for HNS bulk transport:

- Depending on the physical behaviour of the chemical and window of opportunity;
- Limited response options.

Response operations for HNS packaged:

- Recovery of containers/drums.



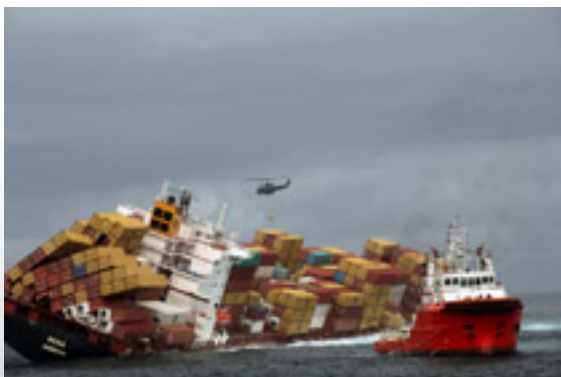
Irish Coast Guard

Limitation of HNS response operations

- Reactivity with water and air;
- Reactivity with other chemicals on board;
- Cargo manifest mis-declarations.



COMET, Germany



New Zealand Defence Force



MCA, UK



www.containershipping.nl/casualties

Information needs in a HNS incident:

First stage:

- Concise information on the substances involved is needed;
- Information on the hazards, behaviour, physical and chemical properties of the substance;
- Evaluate the risks for the crew on board and responders.

Second stage:

- Ship integrity information.

Third stage:

- Information for salvage operations.

Content of SDS/MSDS

MSDS/SDS are available sources of information that can be used a first stage of information:

- Developed by the industry;
- 16 Sections of standard information;
- Focused on occupational health and safety, transport safety and environmental protection.

However specific maritime related information is missing.

Maritime related information

SDS/MSDSs complemented with specific maritime related information can be very useful as a first level of information on the chemical substances involved.

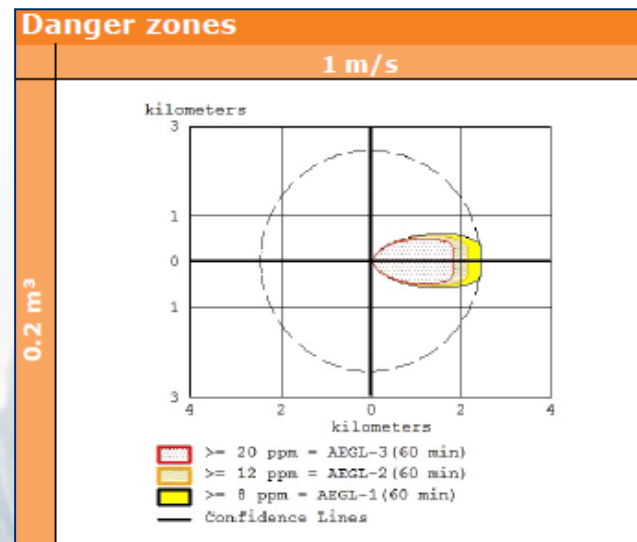
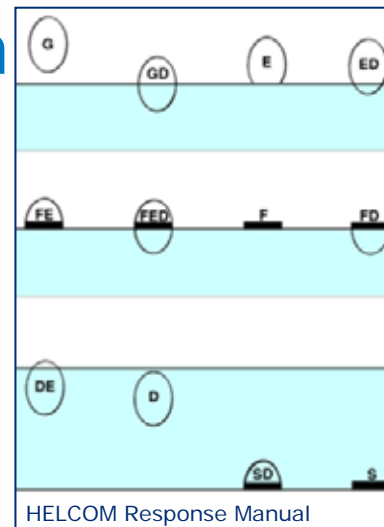
Examples of maritime related information:

- GESAMP Hazard profile

		1	2	3	4	5	6
Bioaccumulation & biodegradation	A1 Bioaccumulation	0					
	A2 Biodegradation	R: Readily biodegradable					
Aquatic toxicity	B1 Acute aquatic toxicity	3					
	B2 Chronic aquatic toxicity	2					
Acute mammalian toxicity	C1 Mammalian acute oral toxicity	2					
	C2 Mammalian acute dermal toxicity	2					
	C3 Mammalian acute inhalation toxicity	3					
Irritation, corrosion and long term health effects	D1 Skin irritation and corrosion	1: Mildly irritating					
	D2 Eye irritation and corrosion	3: Severely irritating					
	D3 Long-term health effects	C: Carcinogen T: Target organ systemic toxicity S: Sensitising					
Interference with other uses of the sea	E1 Tainting	NT: Not tainting (tested)					
	E2 Physical effects on wildlife & benthic habitats	F: Floater D: Dissolves					
	E3 Interference with coastal amenities	3					

Response related information

- Explanatory information on Maritime Transportation codes:
 - To provide information on existing safeguards on board.
- Scenarios built-up;
- How substance will behave in water;
 - e.g. dissolve, evaporate, sink...
- Emergency measures on-board of ships.



Main features of “improved” SDS/MSDS

- Should be readily available for response planners and first responders;
- Provide relevant information for Maritime Pollution Response on board of ships;
- Concise and focused;
- Easy understandable by first responders that may not be chemical experts.

Thank you for your attention!

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www.emsa.europa.eu