Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

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English

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Centraal Bureau voor de
Rijn- & Binnenvaart

Risk assessment Blending on board of barges

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Risk Assessment

To quantify the initial risks of the process of blending on board initially and after the apply of the proposal,
the 5 x 5 Matrix, based on the theory of Fine & Kinney is used.
The risks are assessed by estimating both the probability and the impact of the result when a risk becomes an event.
By multiplying the numbers 1-5 for impact and probability, the status of Low, Medium or (Very) High risk is calculated.

Risk

(L) Low	Low, Acceptable
(M) Medium	To be tolerated , but risk mitigating measures should be applied where possible.
(H) High	Unacceptable, additional risk mitigating measures should be applied directly.
(VH) Very High	Unacceptable, directly stop operations

		Impact				
		Trivial	**Minor**	**Moderate**	**Major**	**Extreme**
Probability	**Rare**	Low	Low	Low	Low	Medium
	Unlikely	Low	Low	Medium	Medium	High
	Moderate	Low	Medium	High	High	Very High
	Likely	Medium	High	High	Very High	Very High
	Very likely	Medium	High	Very High	Very High	Very High

Blending operations on board of barges

			Initial risk				Adjusted risk			
No.	**Hazards of process**	**Possible results**	**Chance**	**Impact**	**Risk**	**Risk Mitigating measure in proposal WP15/AC2/30/INF.15**	**Chance**	**Impact**	**Risk**	**Remarks**
1.	Composition of incompatible components of blend recipe by consignor.	Chemical reaction; exothermal reaction, fire, explosion, Loss of Containment, Environmental impact. Negative imago.	2	5	H	Consignor shall confirm compatible blending recipe and provide blend instructions to filler(s) and carrier. This is to be confirmed in writing.	1	5	M	
2.	Blending of 2 or more different products in the barges cargo tanks	Chemical reaction; exothermal reaction, fire, explosion, Loss of Containment, Environmental impact. Negative imago.	2	5	H	Filler's Safety Advisor will assess the blending recipe on the compatibility of the components as 2nd line of defense.	1	5	M	
3.	Result of blend on board of barge unknown (product specifications)	Crew not capable to use the proper PPE's and prepare appropriate emergency plans. Exposure of DG to crew and environment.	3	5	VH	Consignor shall confirm compatible blending recipe and provide fully complete blend instructions to filler(s) and carrier. This is to be confirmed in writing. Barge shall not start loading without fully complete blend recipe and proper shipping data. ADN Table C collumn 18 indicates the correct PPE's.	1	4	L	
4.	Blending of waste	Violation of various laws. Possibility of chemical reaction. Crew not capable to identify and use the proper PPE's and prepare appropriate emergency plans. Exposure of DG to crew and environment. Negative imago.	4	4	VH	Consignor shall confirm compatible blending recipe and provide blend instructions to filler(s) and carrier. This is to be confirmed in writing. ADN 8.6.3: ADN Checklist Question 1. Each product to be loaded as well as the blended product must be mentioned on the ships substances list (ADN 1.16) prior to accepting the voyage. Consignor obligation to inform (1.4.2.1.1) and carrier and filler obligation to check in accordance with 1.4.2.2.1/1.4.3.3). Deviation of instruction means all parties must confirm agreement.	1	4	L	