



# Multi-Modal Classification of Marine Pollutants and Environmentally Hazardous Substances



Joshua Nevels, D.C.

## Abstract

The classification of a substance or mixture as a marine pollutant/environmentally hazardous substance can be derived using various criteria in the US and globally—even the very use of the term “marine pollutant” varies according to region. This poster seeks to examine the similarities and differences between the DOT, IATA, IMDG, ADR, RID and ADN regulations, as they pertain to the important pre-transportation function of classification. Common concerns surrounding the declaration of marine pollutants are also addressed, including best practices for declaring the technical names of the environmentally hazardous components.

## Classification Criteria According to Various Global Transport Regulations

DOT	IATA	IMDG	ADR	RID	ADN
⇒ Substance is listed in 49 CFR 172.101 Ap. B or Mixture contains either 1% w/w (for severe marine pollutants); 10% w/w (for marine pollutants) or	⇒ User is referred to 19th Ed. of UN Model regs... ⇒ ...which align with EC 1272/2008 (CLP):	⇒ Substance listed as MP in column 4 of Dangerous Goods List or... ⇒ Per criteria in EC 1272/2008 (CLP):	⇒ Aligned with EC 1272/2008 (CLP):	⇒ Aligned with EC 1272/2008 (CLP):	⇒ Aligned with EC 1272/2008 (CLP):
⇒ Per IMDG Criteria	<ul style="list-style-type: none"> <li>• Aq. Acute 1</li> <li>• Aq. Chronic 1</li> <li>• Aq. Chronic 2</li> </ul>	<ul style="list-style-type: none"> <li>• Aq. Acute 1</li> <li>• Aq. Chronic 1</li> <li>• Aq. Chronic 2</li> </ul>	<ul style="list-style-type: none"> <li>• Aq. Acute 1</li> <li>• Aq. Chronic 1</li> <li>• Aq. Chronic 2</li> </ul>	<ul style="list-style-type: none"> <li>• Aq. Acute 1</li> <li>• Aq. Chronic 1</li> <li>• Aq. Chronic 2</li> </ul>	<ul style="list-style-type: none"> <li>• Aq. Acute 1</li> <li>• Aq. Chronic 1</li> <li>• Aq. Chronic 2</li> </ul> ⇒ Plus the following if shipped in tank vessel: <ul style="list-style-type: none"> <li>• Aq. Acute 2</li> <li>• Aq. Acute 3</li> <li>• Aq. Chronic 3</li> </ul>

## UN3077 or UN3082—To assign or not to assign?

- ◆ Does the substance or mixture carry a primary transport hazard, such as corrosivity, flammability, etc.? If yes, do not assign a proper shipping name (PSN) of Environmentally Hazardous Substance. Instead, assign a PSN that is appropriate for the primary hazard

## Declaring the MPs/Environmentally Hazardous Components:

- ◆ If PSN of Environmentally Hazardous Substance was assigned, simply declare ≥2 most prominent aquatic toxins in parentheses. PSNs other than UN3077/UN3082 need the words “marine pollutant” or “environmentally hazardous substance (aquatic environment)” next to the PSN for clarity

# Best Practices for Declaring the Technical Names of the Environmentally Hazardous Components



**Example 1:** The simplest case, where the same substance(s) contributes to both the primary hazard and the environmental hazard

- ◇ **Key Points:** the fatty amidoamine compound is both corrosive (the primary hazard) as well as environmentally hazardous, therefore this substance is declared only once, in parentheses next to the proper shipping name.
- ◇ **Declaration:** Amines liquid, corrosive, n.o.s. (fatty amidoamines). Marine Pollutant.

**Example 2:** A more complicated case, where the product contains multiple marine pollutant substances, one of which also contributes to the primary hazard

- ◇ **Key Points:** the fatty amidoamine compound is both corrosive (the primary hazard) and environmentally hazardous, but the zinc oxide component is not corrosive, and is therefore declared separately, in parentheses, next to the words “marine pollutant,” so as to differentiate it from the component(s) contributing to the primary hazard.
- ◇ **Declaration:** Amines liquid, corrosive, n.o.s. (fatty amidoamines). Marine Pollutant (fatty amidoamines, zinc oxide).

**Example 3:** A complicated case, where the product contains a single marine pollutant substance which does not contribute at all to the primary hazard

- ◇ **Key Points:** the components contributing to the primary hazard (flammability) are declared separately in parentheses from the component contributing only to the environmental hazard, zinc oxide in this case.
- ◇ **Declaration:** Flammable liquid, n.o.s. (mixed xylenes, toluene). Marine Pollutant (zinc oxide).