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Flowchart for classifying dangerous goods

IMDG Code Amendment 42-24 · classes 2, 3, 4, 5, 6.1, 8 and 9, environmentally hazardous substances and marine pollutants

Question
Step
Result or branch
Outside this chart
Not subject to the Code
Classified, conditional relief

Start: the product and its data
Formulation, physical, chemical and toxicity data, test reports

Class 1, class 6.2 or class 7?
Yes → **Outside this flowchart**
Class 1: classification ratified by the competent authority (2.1.3). Class 6.2: 2.6.3. Class 7: 2.7.

No

Specifically listed by name in the Dangerous Goods List?
Use the Index to find the entry. The substance itself, or the mixture or solution under its own name (2.0.2.2, 2.0.2.5.1)
Yes → **Take the UN number and proper shipping name from the Dangerous Goods List**
The Index locates the entry; it does not replace it (Index, Note 1). Test data show an additional hazard not in the List: 2.0.0.2, with competent authority approval.
POTASSIUM HYDROXIDE SOLUTION, UN 1814, class 8

No

Meets the criteria of class 2, 3, 4.1, 4.2, 4.3, 5.1, 5.2, 6.1, 8 or 9?
Test data, calculation or human experience, including the aquatic criteria of 2.9.3. For a mixture or solution: the finished product (2.0.2.5, 2.0.2.9)

Named mixture or solution: does it still meet the criteria of a class?
A diluted solution may not (3.1.3.1)
Yes → (to the predominant-substance check)
No

No → **Not subject to the Code**
Meets no class criteria and is not a marine pollutant (2.0.2.9, 3.1.3.1), or the conditions of a special provision are met (SP 223: a marine pollutant stays subject to 2.10.3).

Yes → **One predominant listed substance?**
Plus substances not subject to the Code and/or traces of listed substances (2.0.2.5)
Yes → **Any exception in 2.0.2.5 .2 to .4?**
.2 name applies only to the pure substance
.3 class, subsidiary hazard, packing group or physical state differs
.4 different emergency response measures
If yes: treat as not specifically listed (2.0.2.5). Changed class, state or packing group: N.O.S. entry for the changed hazard (2.0.2.6).
Yes → (to More than one hazard?)
No → **Use the predominant substance's UN number and proper shipping name**
Add "SOLUTION" or "MIXTURE"; the concentration may follow (3.1.3.3). Check marine pollutant constituents (2.0.2.8).
ACETONE SOLUTION, ACETONE 75% SOLUTION

No → **More than one hazard?**
Yes → **Primary class and subsidiary hazards**
Precedence of hazards table (2.0.3.6). Always primary (2.0.3.4): class 1, gases, self-reactive and desensitized explosives, pyrophoric 4.2, 5.2, 6.1 PG I vapour inhalation, 6.2, 7.

No

Self-reactive (4.1) or organic peroxide (5.2)?
Yes → **Use the prescribed generic entry**
Self-reactive: 2.0.2.3, 2.4.2.3. Organic peroxides: 2.0.2.4, 2.5.3. No packing group (2.0.1.3).
SELF-REACTIVE SOLID TYPE B, UN 3222; ORGANIC PEROXIDE TYPE B, LIQUID, UN 3101

No

Select the entry that most precisely describes the goods
2.0.2.7, 2.0.2.10, 3.1.3.4 and Appendix A: a generic entry first, then a specific N.O.S. entry, then a general N.O.S. entry. Organometallic substances: decision tree in 2.4.5.
FLAMMABLE LIQUID, N.O.S., UN 1993; OXIDIZING SOLID, TOXIC, N.O.S., UN 3087, 5.1 (6.1); CHLOROFORMATES, TOXIC, CORROSIVE, FLAMMABLE, N.O.S., UN 2742, 6.1 (3, 8); ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE, UN 3394, 4.2 (4.3), PG I

Packing group, where assigned
Listed: the line in the Dangerous Goods List that fits the product. Not listed, more than one hazard: the most stringent packing group of all its hazards, whichever is primary (2.0.3.1, 2.0.3.2). None for classes 1, 2, 5.2, 6.2, 7, self-reactive 4.1 or articles (2.0.1.3).

Special provisions, column 6
Read every one. Technical names: SP 274 and 3.1.2.8; N.O.S. marine pollutant: 3.1.2.9.1. If a provision's conditions are met (for example 144, 145, 223), the goods may not be subject: see the left margin.

Special provision conditions met → not subject

Marine pollutant?
P in the Index or column 4, or meets 2.9.3 (2.10.2.4, 2.10.3)
Yes → **Marine pollutant provisions apply**
No class 1 to 8 hazard: UN 3077 or UN 3082, unless there is a specific class 9 entry (2.10.2.3). N.O.S. entry: add the marine pollutant constituent name (3.1.2.9.1). Competent authority approval: 2.10.2.6.

No

5 L or 5 kg or less per single or inner packaging?
And the other conditions of 2.10.2.7 or SP 375 met?
No
Yes → **Classified, with conditional relief**
Not UN 3077 or UN 3082: 2.10.2.7. Only 5.2.1.6, 5.3.2.3, 5.4.1.4.3.6 and 7.1.4.2 do not apply; all other provisions still apply.
UN 3077 or UN 3082: SP 375. Not subject to the other provisions of the Code if the packagings meet 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

Result: UN number; proper shipping name (technical name, if required); class; subsidiary hazard(s), if any; packing group, if assigned; marine pollutant: yes or no
Into the dangerous goods description (5.4.1.4). Wastes: 2.0.5. Samples: 2.0.4. Articles: see also 2.0.6.