

U.S. Reportable Quantities (RQ)

Appendix A to 49 CFR §172.101



Council on Safe Transportation of Hazardous Articles



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What is a Hazardous Substance?

49 CFR defines a hazardous substance as a material, including its mixtures and solutions that are listed in Appendix A to 172.101 and shipped in a quantity, in one package, that equals or exceeds the reportable quantity (RQ) listed in the Appendix A to 172.101 and; when in a mixture or solution:

- Conforms to Paragraph 7 of Appendix A to 172.101 (for radionuclides)
- Is in a concentration by weight which equals or exceeds the concentration corresponding to the reportable quantity of the material (for non-radionuclides)

Appendix A fulfills the requirement of CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) of 40 CFR of the EPA. CERCLA requires that all “hazardous substances” be listed and regulated as hazardous materials. That definition includes substances listed under sections of the Federal Water Pollution Act, sections of the Solid Waste Disposal Act, and sections of the Clean Air Act.

<https://www.epa.gov/epcra/hazardous-substance-designations-and-release-notifications#cercla103>



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What Does That Really Mean?

A hazardous substance is a material that is:

- Listed in Table 1 of Appendix A to the Hazardous Materials Table (172.100)
- Shipped in one package, in a quantity which equals or exceeds the Reportable Quantity (RQ) in Table 1
- A mixture or solution in a concentration by weight, which equals or exceeds the concentration shown in the Table found within the definition of a hazardous substance in §171.8

§172.101 Hazardous Materials Table

| TABLE 1 TO APPENDIX A.—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES | |
|--|---|
| Hazardous substance | Reportable quantity (RQ) pounds (kilo grams) |
| Acetic acid, lead (2+) salt | 10 (4.54) |
| Acetic acid, thallium (I+) salt | 1000 (454) |
| Acetic anhydride | 5000 (2270) |
| Acetone | 5000 (2270) |
| Acetone cyanohydrin | 10 (4.54) |
| Acetonitrile | 5000 (2270) |
| Acetophenone | 5000 (2270) |
| 2-Acetylaminofluorene | 1 (0.454) |



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Two Tables: Radionuclides and Other Than Radionuclides

Appendix A contains two tables:

- Table 1 lists the names of those elements and compounds that are hazardous substances, other than Radionuclides, and their respective reportable quantities in both pounds and kilograms. The kilograms are in parenthesis.
- Table 2 lists the names of those Radionuclides that are hazardous substances and their respective reportable quantities in both curies and terabecquerels. The TBqs are in parenthesis.

| TABLE 1 TO APPENDIX A.—HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES | | | |
|--|-------------------------|-------------------|--------------------------------------|
| | TABLE 2.— RADIONUCLIDES | | |
| | (1)—Radionuclide | (2)—Atomic Number | (3)—Reportable Quantity (RQ) Ci(TBq) |
| Acetic a | Actinium - 224 | 89 | 100 (3.7) |
| Acetic a | Actinium - 225 | 89 | 1 (.037) |
| Acetic a | Actinium - 226 | 89 | 10 (.37) |
| Acetone | Actinium - 227 | 89 | 0.001 (.000037) |
| Acetone | Actinium - 228 | 89 | 10 (.37) |
| Acetonit | Aluminum-26 | 13 | 10 (.37) |
| Acetoph | Americum - 237 | 95 | 1000 (37) |
| 2-Acetyl | Americum - 238 | 95 | 100 (3.7) |



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How Do I Know if I Have a RQ?

To determine if a material is a hazardous substance, you must use Table 1 and Table 2. The tables are organized alphabetically.

- What is the specific name of your material?
- Is your material listed as a hazardous substance in either Table?
- What is the RQ listed for your material? What is the limit?
- Does the amount of your material equal or exceed the RQ in one package?
- Is your material also listed by name in the Hazardous Materials Table (HMT) and thus a proper shipping name?



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What if My RQ is NOT in the HMT?

If a hazardous substance is not listed as a proper shipping name in the HMT, you must use one of the following as appropriate:

- Environmentally Hazardous Substance, Liquid, N.O.S
- Environmentally Hazardous Substance, Solid, N.O.S
 - Don't forget your technical name!

§172.101 Hazardous Materials Table

| Hazardous materials descriptions and proper shipping names | | Special provisions (§172.102) | (8) Packaging (§173.***) | | | (9) Quantity limitations | | (10) Vessel stowage | |
|--|--|-------------------------------|--------------------------|----------|--------|--------------------------|----------------------|---------------------|-------|
| | | | Excep-tions | Non-bulk | Bulk | Passenger aircraft/rail | Cargo air-craft only | Location | Other |
| (2) | | (7) | (8A) | (8B) | (8C) | (9A) | (9B) | (10A) | (10B) |
| Environmentally hazardous substances, liquid, n.o.s. | | 8, 146, IB3, T4, TP1, TP29 | 155 ... | 203 .. | 241 .. | No limit | No limit | A | |
| Environmentally hazardous substances, solid, n.o.s. | | 8, 146, B54, IB8, N20 | 155 ... | 213 .. | 240 .. | No limit | No limit | A | |



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Exercise Time



Material: Ethylene dichloride



Reportable Quantity (RQ) from Table 1: 100 pounds or 45.4 kilograms



Package size: 5,500 pounds in one package



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Is it a RQ?

1. Is material listed in Table 1 by name?
 - ✓ Yes, it is.
2. Does the amount of the material exceed the RQ for Ethylene dichloride?
 - ✓ Yes, it does.
3. What is the proper shipping name?
 - ☐ Is Ethylene dichloride in the HMT?
 - ✓ Yes, it is.
4. How do I enter this on my DG paperwork?
 - The letters RQ must be entered in conjunction with the basic description, either before or immediately after.
 - RQ, UN1184, Ethylene dichloride, 3, PG II
 - The letter RQ must also be entered in conjunction with the proper shipping name and UN number on each package in the shipment of that material.
5. If I'm shipping by air using IATA, does this apply?
 - ✓ Yes, it does. If your material is going to, through, or from the United States, 49 CFR still applies, regardless of mode.



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e-Tools to Help

U.S. PHMSA has an online CFR or oCFR. The oCFR allows you to search easily through the HMT, Table 1 and Table 2.

<https://portal.phmsa.dot.gov/publicCFR/hazmat-apx>

U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

PHMSA Code of Federal Regulations - Title 49 Part 100 - 199

Table of Hazardous Materials (§172.101) and Appendices (§172.101)

Records have been updated upto September 29th, 2023

Appendix A: Table 1 - Hazardous Substances Other Than Radionuclides

Count: 1351

Search Text:

[Download as Excel](#)

| Hazardous Substance | Reportable Quantity: lbs. (kg) |
|---|--------------------------------|
| A2213 | 5000 (2270) |
| Acenaphthene | 100 (45.4) |
| Acenaphthylene | 5000 (2270) |
| Acetaldehyde | 1000 (454) |
| Acetaldehyde, chloro- | 1000 (454) |
| Acetaldehyde, trichloro- | 5000 (2270) |
| Acetamide | 100 (45.4) |
| Acetamide, N-(aminothioxomethyl)- | 1000 (454) |
| Acetamide, N-(4-ethoxyphenyl)- | 100 (45.4) |
| Acetamide, N-9H-fluoren-2-yl- | 1 (0.454) |
| Acetamide, 2-fluoro- | 100 (45.4) |
| Acetic acid | 5000 (2270) |
| Acetic acid, (2,4-dichlorophenoxy)-, salts & esters | 100 (45.4) |
| Acetic acid, ethyl ester | 5000 (2270) |
| Acetic acid, fluoro-, sodium salt | 10 (4.54) |
| Acetic acid, lead(2+) salt | 10 (4.54) |
| Acetic acid, thallium(1+) salt | 100 (45.4) |
| Acetic acid, (2,4,5-trichlorophenoxy)- | 1000 (454) |
| Acetic anhydride | 5000 (2270) |



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Do Special Provisions for UN3077/UN3082 Apply?

1. My material is an Environmentally Hazardous Substance Liquid, N.O.S. (alpha, alpha-Dimethylbenzylhydroperoxide), 9, PG III, with 2 inners at 5 liters each in one completed package and it will be shipping to the U.S.
2. I want to use 49 CFR §173.155 or IATA SP A197 or the IMDG Code Limited Quantity provision. May I do that and not mark my packages at all and not generate DG paperwork?
 - ✓ In this instance, the answer is NO.
3. How do I figure that out?
 - ❑ Use the oCFR to search Appendix A for your material's name
 - ❖ One note of caution: The search function can be tricky and may not find your complete chemical name. Shorten the name to dimethyl to see all the results. This is faster than scrolling through the entire list.



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Do Special Provisions for UN3077/UN3082 Apply?

1. Using the search feature produces the below result

- ❑ What is the RQ for alpha, alpha-Dimethylbenzylhydroperoxide from Appendix A?
 - The RQ from Appendix A is 10 pounds or 4.54 kgs
 - The single package exceeds the RQ limit
 - The letters RQ must appear on the DG paperwork and the package
 - As the completed package meets the limited quantity provision of each applicable standard, the applicable modal LTD QTY mark must still appear on the package; and for air, the hazard class label

| PHMSA Code of Federal Regulations - Title 49 Part 100 - 199 | |
|---|--------------------------------|
| Table of Hazardous Materials (§172.101) and Appendices (§172.101) | |
| Records have been updated upto September 29th, 2023 | |
| Appendix A: Table 1 - Hazardous Substances Other Than Radionuclides | |
| Count: 1351 | |
| Hazardous Substance | Reportable Quantity: lbs. (kg) |
| alpha, alpha-Dimethylbenzylhydroperoxide | 10 (4.54) |



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What if a Release Happens?

- If there is a release of a RQ, it must be reported if the amount released meets or exceeds the reportable quantity, although an individual package may be under the RQ limit.
- Per U.S. EPA's CERCLA Section 103: Notification Requirements, the person in charge of a vessel or an offshore or an onshore facility must immediately notify the National Response Center whenever a Reportable Quantity or more of a CERCLA hazardous substance is released in any 24-hour period, unless permitted by the U.S. authorities.
- The National Response Center may be reached at:
 - 1-800-424-8002 (please note that 1-800 numbers will not work internationally), or
 - In Washington, DC at +01-202-267-2675

<https://www.epa.gov/epcra/hazardous-substance-designations-and-release-notifications#cercla103>