



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety
Administration

1200 New Jersey Avenue, SE
Washington, D.C. 20590

APR 22 2014

Mr. John V. Currie
CEO and Chief Technical Officer
Currie Associates, Inc.
10 Hunter Brook Lane
Queensbury, NY 12804

Ref. No.: 14-0043

Dear Mr. Currie:

This is in response to your March 6, 2014 letter, requesting guidance on how to properly describe a crude sulfate turpentine solution under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you request confirmation that "UN1299, Turpentine solution, Class 3, PG III, RQ (contains Methyl mercaptan)" more appropriately describes the material than "UN1993, Flammable liquid, n.o.s. (contains Turpentine, Dimethyl sulfide), Class 3, PG III, RQ (Methyl mercaptan).

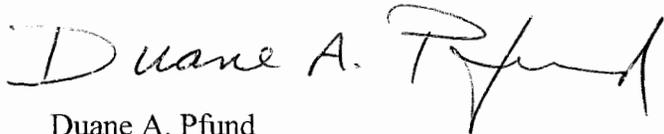
In your letter you provide the material characteristics. The crude sulfate turpentine solution meets the definition of a Class 3 flammable liquid assigned to packing group III. The solution is comprised of: Turpentine and terpene hydrocarbon isomers (97-99%); Methyl mercaptan (0.2 to 2.5%); Dimethyl sulfide (1 to 2.5%); and Dimethyl disulfide (0 to 1.3%). The crude sulfate turpentine is a solution that is not identified by name in the § 172.101 Hazardous Materials Table (HMT), but is comprised of a single predominant hazardous material (Turpentine) identified in the HMT by technical name and one or more hazardous and/or non-hazardous materials. In addition, you describe that the HMT entry for Turpentine does not meet the exceptions provided § 172.101(c)(10)(i)(A) through (F), thus requiring the selection of "Turpentine solution" as the proper shipping name.

Your understanding is correct. The most appropriate basic description is "UN1299, Turpentine solution, Class 3, PG III, RQ (contains Methyl mercaptan)." Section 172.101(c)(10) sets forth the criteria for selecting a proper shipping name of a mixture or solution not identified specifically by name in the HMT. Section 172.101(c)(10)(i) requires that a mixture or solution comprised of a single predominant hazardous material identified by technical name in the HMT and one or more hazardous and/or non-hazardous material must be described with the proper shipping name of the predominant hazardous material and the qualifying word "mixture" or "solution," unless the mixture or solution meets one or more of the conditions in subparagraphs (A) through (F).

The requirements for generic or "N.O.S." proper shipping name selection in § 172.101(c)(10)(iii) are intended for mixtures or solutions not comprised of a single predominant hazardous material identified in the HMT.

I trust this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in cursive script that reads "Duane A. Pfund". The signature is written in black ink and is positioned above the typed name.

Duane A. Pfund
International Standards Coordinator
Standards and Rulemaking Division



Wiener
 § 172.101
 Proper Shipping
 Name
 14-0043

March 6, 2014

U.S. DOT
 PHMSA Office of Hazardous Materials Standards
 Attn: PHH-10
 East Building
 1200 New Jersey Avenue, SE.
 Washington, DC 20590-0001
 Via email: phmsa.hm-infocenter@dot.gov

We are requesting PHMSA's interpretation on the correctness of the basic shipping description a client has assigned to "crude sulfate turpentine" that is produced and shipped as a by-product from chemical pulping mills. The crude sulfate turpentine is generally shipped in bulk, typically in a railroad tank car.

The crude sulfate turpentine has a flash point range between 73-95°F and a boiling point range of 246° – 344°F. It is a class 3 flammable liquid in packing group III. The composition of the crude sulfate turpentine is:

Ingredient	Percentage	UN #	Proper Shipping Name	Hazard Class	Packing Group
Turpentine and Terpene Hydrocarbon Isomers	97-99%	UN1299	Turpentine	3	III
Methyl Mercaptan	0.2 to 2.5%	UN1064	Methyl Mercaptan	2.3 (2.1)	
Dimethyl Sulfide	1 to 2.5%	UN1164	Dimethyl Sulfide	3	II
Dimethyl Disulfide	0 to 1.3%	UN2381	Dimethyl Disulfide	3	II

We believe the basic shipping description should be:

UN1299, Turpentine Solution, 3, III, RQ (contains Methyl Mercaptan)

We base this determination on the following factors:

1. The 2011 Final Rule amending 49 CFR 172.101(c)(10) and the supporting rationale as published in the preamble to that Rule. For years many companies in the pulp and paper industry have described crude sulfate turpentine as UN1993, Flammable liquid, n.o.s. (Turpentine, Dimethyl sulfide), 3, III. This practice was based on the wording of 49 CFR 172.101(c)(10)(iii), which prior to being amended in 2011, required a mixture or solution not identified in the [Hazardous Materials] Table specifically by name, comprised of two or more hazardous materials in the same hazard class, to be described using an appropriate shipping description (e.g., "Flammable liquid, n.o.s.). ..." In 2011, DOT published a Final Rule that changed the relevant language in 49 CFR 172.101(c)(10) (combining what was previously 172.101(c)(10)(i) and (iii)) to read:

“(i) A mixture or solution not identified specifically by name, comprised of a single predominant hazardous material identified in the Table and one or more hazardous and/or non-hazardous materials, must be described using the proper shipping name of the hazardous material and the qualifying word “mixture” or “solution” as appropriate ...”

In the preamble for the amendment, DOT explained:

“With respect to instances when the provision would be used, we would expect it to be applied in cases of mixtures or solutions of a hazardous material that contain small amounts of preservatives or are contaminated with trace amounts of hazardous material in such a way that the ‘trace amounts’ do not affect the packaging, the hazard class, the packing group, etc. of the hazardous material. As for defining ‘trace amounts’ we do not specifically define this term because determination of when an amount of material affects the hazard classification is highly variable depending on the physical and chemical properties of the materials involved and the quantities of material involved. ...”

2. The crude sulfate turpentine is a solution that is not identified specifically by name and that is comprised of a single predominant hazardous material (Turpentine) identified in the hazardous materials table by technical name and one or more other hazardous materials, present in “trace amounts.”
3. The packaging specified for Turpentine in column 8 of the hazardous materials table is appropriate for the physical state (liquid) of crude sulfate turpentine.
4. The proper shipping name Turpentine in the hazardous materials table does not indicate that this proper shipping name applies only to pure or technically pure material.
5. The hazard class (3) and packing group (III) of the crude sulfate turpentine, as offered for transportation, is identical to that listed in the hazardous materials table for Turpentine.
6. The concentrations of reduced sulfur compounds in the crude sulfate turpentine do not change the measures to be taken in an emergency. Emergency procedures for a release of crude sulfate turpentine would be identical to the procedures for turpentine. However, the proper shipping name “turpentine” communicates specific information about the predominant ingredient and the associated hazards. The proper shipping name “flammable liquids, n.o.s.” is a more generic proper shipping name and will not provide the emergency responder with as much information as “turpentine.”
7. Although pure Methyl Mercaptan is a “poisonous by inhalation” material (hazard zone C) this ingredient is dissolved in the solution and does not exist as a gas when offered for transportation. Therefore, it no longer meets the definition of poisonous by inhalation. During transport, small amounts of Methyl Mercaptan may come out of solution and collect in the head space of the bulk packaging (tank car). Many paper companies address this issue in the material safety data sheets they distribute to customers and which are available as written emergency response information.
8. There is no appropriate generic proper shipping name in the hazardous materials table that more accurately describes the nature and transportation risks of the crude sulfate turpentine.

We request a written interpretation from your office that 1) based on the information presented in this request, "UN1299, Turpentine Solution, 3, III, RQ (contains Methyl Mercaptan)" is a more appropriate proper shipping description than "UN1993, Flammable Liquid n.o.s. (contains Turpentine, Dimethyl Sulfide), 3, III RQ (Methyl Mercaptan)" and, 2) that this proper shipping description complies with current DOT regulations.

If you need additional information about the crude sulfate turpentine, or have any other questions about this request, please contact Currie Associates as provided below.

Sincerely,



John V. Currie
CEO and Chief Technical Officer
jack@currieassociates.com