

















TABLE A.1.1—ACUTE TOXICITY HAZARD CATEGORIES AND ACUTE TOXICITY ESTIMATE (ATE) VALUES DEFINING THE         RESPECTIVE CATEGORIES						
Exposure route	Category 1	Category 2	Category 3	Category 4		
Oral (mg/kg bodyweight) see: Note (a), Note (b) Dermal (mg/kg bodyweight) see: Note (a), Note (b)	≤5 ≤5	>5 and ≤50	>50 and ≤300	>300 and ≤2000. >1000 and ≤2000.		
Inhalation—Gases (ppmV) see: Note (a), Note (b), Note (c) Inhalation—Vapors (mg/l) see: Note (a), Note (b), Note (c),	≤100 ≤0.5	>100 and ≤500 >0.5 and ≤2.0	>500 and ≤2500	>2500 and ≤20000. >10.0 and ≤20.0.		
Inhalation—Dusts and Mists (mg/l) see: Note (a), Note (b), Note (c)	≤0.05	>0.05 and ≤0.5	>0.5 and ≤1.0	>1.0 and ≤5.0.		
Note: Gas concentrations are expressed in parts per million per volume (ppmV). Notes to Table A.1.1: (a) The acute toxicity estimate (ATE) for the classification of a substance is derived using the $LD_{so}/LC_{so}$ Stewardwhere available; (b) The acute toxicity estimate (ATE) for the classification of a substance or ingredient in a mixture is derived using: (i) the LD_so/LC_sw here available. Otherwise, (ii) the appropriate conversion value from Table 1.2 that relates to the results of a range test, or (iii) the appropriate conversion value from Table 1.2 that relates to a classification category: (c) Inhalation cut-off values in the table are based on 4 hour testing exposures. Conversion of existing inhalation toxicity data which has been generated according to 1 hour exposure is achieved by dividing by a factor of 2 for gases and vapors and 4 for dusts and mists;						
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V = ( <i>VP/atm</i> ) x 10 <sup>6</sup>				
(2)(i) The pack inhalation of vapors	ing group and hazard zone assignments for liquids (see §173.115(c) of this subpart for gases) based on shall be in accordance with the following table:			
Packing Group	Vapor concentration and toxicity			
I (Hazard Zone A)	V ≥500 LC <sub>50</sub> and LC <sub>50</sub> ≤200 mL/M3.			
I (Hazard Zone B)	V ≥10 LC <sub>50</sub> ; LC <sub>50</sub> ≤1000 mL/m <sup>3</sup> ; and the criteria for Packing Group I, Hazard Zone A are not met.			
П	V ≥LC <sub>50</sub> ; LC <sub>50</sub> ≤3000 mL/m <sup>3</sup> ; and the criteria for Packing Group I, are not met.			
ш	V ≥.2 LC <sub>50</sub> ; LC <sub>50</sub> ≤5000 mL/m <sup>3</sup> ; and the criteria for Packing Groups I and II, are not met.			
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S	elf-Reactiv	e Liq	uid											
	Flame	Hazard	class or						-	Labo	el name			
		1.1			1	7			_	EXP	LOSIVES	1.1		
	<b>.</b>	1.2			X		$\mathbf{N}$		_	EXP	LOSIVES	1.2		
		1.3								EXP	LOSIVES	1.3		
		1.4					M M A			EXP	LOSIVES	1.4		
	$\sim$	1.5			•	ч	Y 11 Y 17	PLL		EXP	LOSIVES	1.5		
		1.6								EXP	LOSIVES	1.6		
	Flowmahles	2.1							_	FLA	MMABLE (	GAS		
	Flammables	2.2			1		1 4 1		_	NON	FLAMMA	BLE GAS		
	Self Reactives	2.3							_	POIS	SON GAS			
		3 Flamm	able Liq						=	FLA	MMABLE I	IQUID (r	one)	
	Pyrophorics	4.1					•			FLA	MMABLE	SOLID		
	Salfbasting	4.2								SPO		JSLY		
	Self-neating									CON	IBUSTIBL	E		
	Emits Flammable Gas													
	Organic Peroxides													
G	Self-reactive liquid type D	4.1	UN3225	11 4	4.1			151	224	None	5 L	10 L	.D	25, 52, 53
G	Self-reactive liquid type D, temperature controlled	4.1	UN3235	11 4	4.1	T		None	224	None	Forbidden	Forbidden	D	2, 25, 52, 53
G	Self-reactive liquid type E	4.1	UN3227	11 4	4.1	T		151	224	None	10 L	25 L	.D	25, 52, 53
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Help me drop my M, please (MsDs → sDs)
SECTION 2 HAZARDS IDENTIFICATION
CLASSIFICATION: Xn; R20   Xn; R65   R66   IMMEDIATE HEALTH EFFECTS Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Skin contact may cause drying or defatting of the skin. Symptoms may include pain, itching, discoloration, swelling, and blistering. Ingestion: Because of its low viscosity, this material can directly enter the lungs, if swallowed, or if subsequently vomited. Once in the lungs it is very difficult to remove and can cause severe injury or death.
DELAYED OR OTHER HEALTH EFFECTS: Not classified.
ENVIRONMENTAL EFFECTS: Not classified.
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Packing group	Flash point (closed cup)	Initial boiling point
I		≤ 35°C
Пª	<23°C	>35°C
III *	$\geq 23^{\circ}C \leq 60^{\circ}C$	> 35°C





















	Flash point (closed cup)	Initial boiling point
I		≤ 35°C
П	<23°C	>35°C
III *	$\geq 23^{\circ}C \leq 60^{\circ}C$	>35°C







EXAMPLE B: Size Matte	ers!	
<ul> <li>GENE-O-SOL 5 gallon</li> <li>88% water</li> <li>1% soap</li> <li>10% chloroform</li> <li>1% fragrance &amp; color</li> </ul>	<ul> <li>GENE-O-SOL 55 gallon</li> <li>88% water</li> <li>1% soap</li> <li>10% chloroform</li> <li>1% fragrance &amp; color</li> </ul>	1000 (454)
Chloromethane Not HazMat (DG)	RQ (Chloroform) => DG	100 (45.4)
WEtrain 50	WEtra	in <b>F</b>









OSHA GHS definition of 'water-reactive'						
<ul> <li>B.11.2.2 Chemicals with a temperature of spontaneous combustion higher than 50 °C (122 °F) for a volume of 27 m<sup>3</sup> shall not be classified as self-heating chemicals.</li> <li>B.11.2.3 Chemicals with a spontaneous gnition temperature higher than 50 °C (122 °F) for a volume of 450 liters shall not be classified in Category 1 of this class.</li> <li>B.11.3.1 The classification procedure for B.11.3.1 The classification procedure for ensults of a screening test can be adequately correlated with the classification test and an appropriate safety margin is applied.</li> <li>B.11.3.2 Examples of screening tests are:</li> </ul>		<ul> <li>(a) The Grewer Oven test (VDI guideline 2263, part 1, 1990, Test methods for the Determination of the Safety Characteristics of Dusts) with an onset temperature 80°K above the reference temperature for a volume of 1 <i>l</i>;</li> <li>(b) The Bulk Powder Screening Test (Gibson, N. Harper, D. J. Rogers, R. Evaluation of the fire and explosion risks in drying powders, Plant Operations Progress, 4 (3), 181–189, 1985) with an onset temperature 60°K above the reference temperature for a volume of 1 <i>l</i>.</li> </ul>	<ul> <li>B.12 CHEMICALS WHICH, IN CONTACT WITH WATER, EMIT FLAMMABLE GASES</li> <li>B.12.1 Definition</li> <li>Chemicals which, in contact with water, emit flammable gases are solid or liquid chemicals which, by interaction with water, are liable to become spontaneously flammable or to give off flammable gases in dangerous quantities.</li> <li>B.12.2 Classification Criteria</li> <li>B.12.2.1 A chemical which, in contact with water, emits flammable gases shall be classified in one of the three categories for this class, using test N.5 in Part III, sub- section 33.4.1.4 of the UN ST/SC/AC.10 (incorporated by reference; See § 1910.6), in accordance with Table B.12.1:</li> </ul>			
TABLE B.12		CHEMICALS WHICH, IN CONTACT WITH W	ATER, EMIT FLAMMABLE GASES			
Category	Criteria					
2	Any chemical which reacts vigorously with water at ambient temperatures and demonstrates generally a tendency for the gas produced to ignite spontaneously, or which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 liters per kilogram of chemical over any one minute. Any chemical which reacts readily with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 20 liters per kilogram of chemical per hour, and which does not meet the criteria for Category 1					
3	criteria for Category 1. Any chemical which reacts slowly with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 1 liter per kilogram of chemical per hour, and which does not meet the criteria for Categories 1 and 2.					
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49CFR 173.124	(c)	
(c) Division 4.3 (Dangerous when w 4.3) means a material that, by contact w loxic gas at a rate greater than 1 L per k and Criteria.	ret material). For the purposes of this chan ith water, is liable to become spontaneou- ilogram of the material, per hour, when te	pter, <i>dangerous when wet <u>material (Divis</u>ion</i> sly flammable or to give off flammable or sted in accordance with UN Manual of Tests
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• Your seafood supply company ships live crabs (*not the microorganisms, but the macroorganisms*) all over the globe, next day air. Each full moon, plus & minus 2 days, one type of crab secretes large quantities of pheromones that rapidly corrode aluminum. When your carriers and customers demand mSDSs, what will you put in Section 14, and why?

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000	<b>990</b>	
	WE4m	. in
	VVELLA	
100 02	CONSULT	INC

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•What are ALL	the factors that	affect mSDS
	FARN2	















