

International labelling of dangerous goods

IMDG Code labels, marks and signs

Class	Labels and Signs				
1					
2					
3					
4					
5 - 6					
7					
8 - 9			<p>Fumigation warning sign</p> <p>*Insert details as appropriate</p>		<p>DANGER</p> <p>THIS UNIT IS UNDER FUMIGATION WITH [fumigant name*] APPLIED ON [date*] [time*]</p> <p>DO NOT ENTER</p>

Figure A6 - 1

The NFPA diamond

The US National Fire Protection Association (NFPA) has a marking system (“the NFPA fire diamond”) designed for the benefit of first responders in chemical accidents. Though often used worldwide in transportation of chemicals and dangerous goods it is not required in transportation. It is intended for use on fixed installations storage containers, storage rooms and warehouses, entrances to laboratories, and chemical processing equipment.

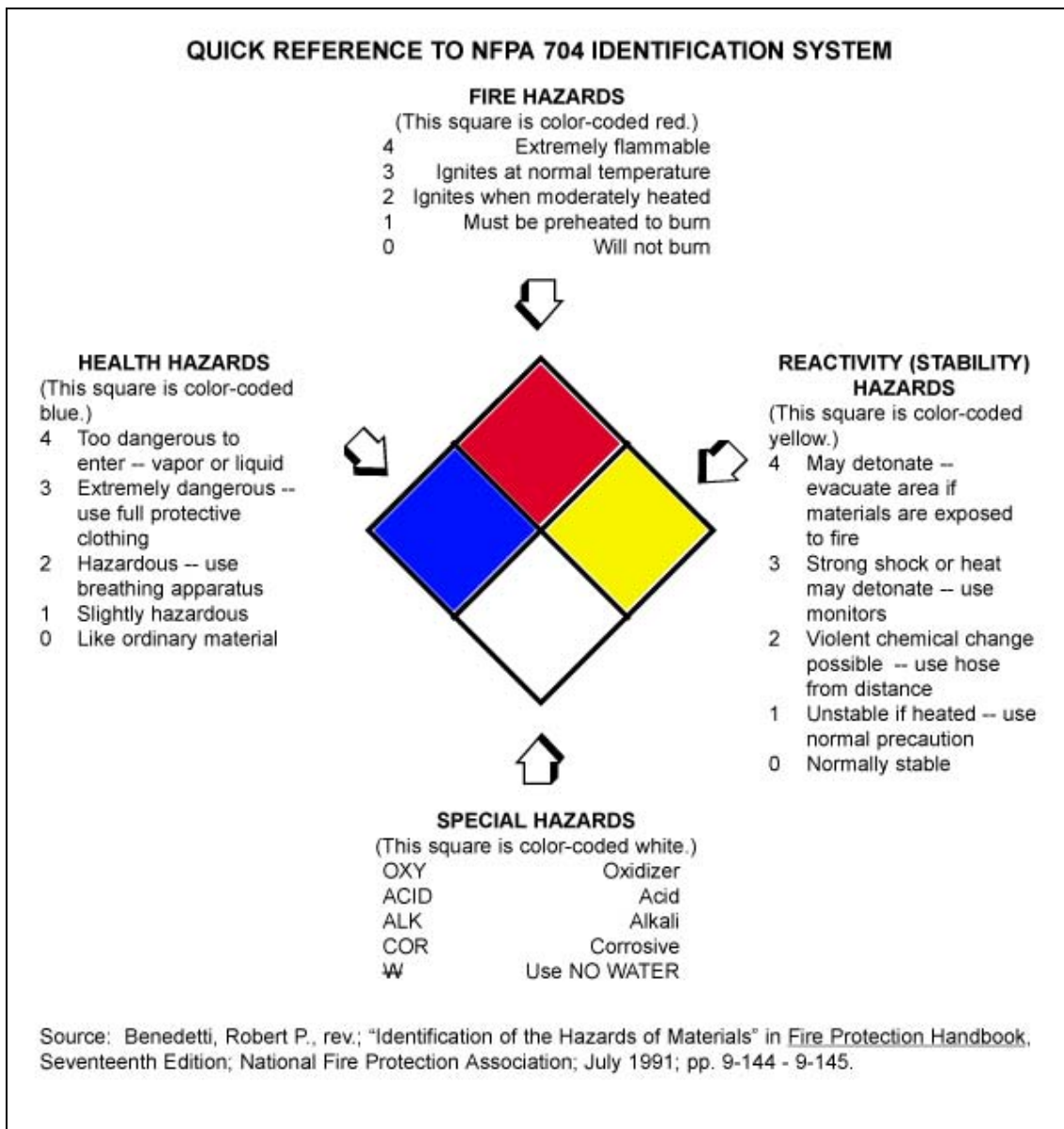


Figure A6 - 2

<p align="center">USFA Hazardous Materials Guide for First Responders National Fire Protection Association (NFPA) Fire Diamonds (NFPA No. 704-1991)</p>					
<p align="center">Identification of Health Hazard Color Code: BLUE</p>		<p align="center">Identification of Flammability Color Code: RED</p>		<p align="center">Identification of Reactivity Color Code: YELLOW</p>	
<p align="center">Type of Possible Injury</p>		<p align="center">Susceptibility of Materials to Burning</p>		<p align="center">Susceptibility to Release of Energy</p>	
Signal		Signal		Signal	
4	Materials that on very short exposure could cause death or major residual injury.	4	Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature, or that are readily dispersed in air and that will burn readily.	4	Materials that in themselves are readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures.
3	Materials that on short exposure could cause serious temporary or residual injury.	3	Liquids and solids that can be ignited under almost all ambient temperature conditions.	3	Materials that in themselves are capable of detonation or explosive decomposition but require a strong initiating source or which must be heated under confinement before initiation or which react explosively with water.
2	Materials that on intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury.	2	Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.	2	Materials that readily undergo violent chemical change at elevated temperatures and pressures or which react violently with water or which may form explosive mixtures with water.
1	Materials that on exposure would cause irritation but only minor residual injury.	1	Materials that must be preheated before ignition can occur.	1	Materials that in themselves are normally stable, but which become unstable at elevated temperatures and pressures.
0	Materials that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible material.	0	Materials that will not burn.	0	Materials that in themselves are normally stable, even under fire exposure conditions, and which are not reactive with water.

Figure A6 - 3

USFA Hazardous Materials Guide for First Responders First Responder Strategy Using the NFPA 704 Diamond						
NFPA Reactivity Rating 0 - 1 (Rating 2 - 4 Defensive Only)						
N F P A H e a l t h R a t i n g	4	Defensive operation only.	Defensive operation only.	Defensive operation only.	Defensive operation only.	
	3	Defensive operation only when materials identified and deemed safe.	Defensive operation only when materials identified and deemed safe.	Defensive operation only when materials identified and deemed safe.	Defensive operation only when materials identified and deemed safe.	
	2	Attack from safe distance in full SCBA. Decontaminate personnel/equipment thoroughly when complete.	Attack from safe distance in full SCBA. Decontaminate personnel/equipment thoroughly when complete.	Attack from safe distance in full SCBA. Decontaminate personnel/equipment thoroughly when complete.	Attack from safe distance in full SCBA. Decontaminate personnel/equipment thoroughly when complete.	Attack from safe distance in full SCBA. Decontaminate personnel/equipment thoroughly when complete. Consider extra attack lines.
	1	Attack with full protective clothing and SCBA. Decontaminate when finished.	Attack with full protective clothing and SCBA. Decontaminate when finished.	Attack with full protective clothing and SCBA. Decontaminate when finished.	Attack with full protective clothing and SCBA. Decontaminate when finished.	Attack with full protective clothing and SCBA. Decontaminate when finished. Consider extra attack lines.
	0	Attack with full protective clothing and SCBA.	Attack with full protective clothing and SCBA.	Attack with full protective clothing and SCBA.	Attack with full protective clothing and SCBA.	Attack with full protective clothing and SCBA. Decontaminate when finished. Consider extra attack lines and master stream appliances.
		0	1	2	3	4
NFPA Flammability Rating						
<i>Last Updated: November 3, 1998</i>						

Figure A6 - 4

The ADR Hazard Identification Number HIN (“The Kemler Code”)

The ADR Hazard Identification Number HIN, also known as the Kemler Code, is carried on placards on tank cars and tank containers running by road under international ADR regulations. Identification numbers are shown in such a way, that the upper number is indicating the danger and the lower number identifies the substances with the UN-number given in the UN Recommendations on the Transport of Dangerous Goods.

An orange blank placard without any numbers indicates vehicle carrying dangerous load (drums, packages, etc.) or multi-load tanker.

The ADR Hazard Identification Number HIN
(The Kemler Code)



The substance’s UN Number

Figure A6 - 5

The first figure of the Kemler Code indicates the primary hazard:	The second and third figure generally indicate secondary hazards:
	0 the hazard is adequately described by the first figure
2 gas	2 (flammable) gas may be given off
3 flammable liquid	3 fire risk
4 flammable solid	4 fire risk
5 oxidizing substance or organic peroxide	5 oxidizing risk
6 toxic substance	6 toxic risk
7 radioactive substance	
8 corrosive substance	8 corrosive risk
9 miscellaneous/environmental hazard	9 risk of spontaneous, violent reaction
X reacts dangerously with water	

Doubling of a figure indicates an intensification of that particular hazard. Where the hazard associated with a substance can be adequately indicated by a single figure, this is followed by a zero.

If a hazard identification number is prefixed by letter 'X', this indicates that the substance will react dangerously with water.

The hazard identification number combinations have following meanings:

20	inert gas
22	refrigerated gas
223	refrigerated flammable gas
225	refrigerated oxidizing (fire-intensifying) gas
23	flammable gas
236	flammable gas, toxic

239	flammable gas, which can spontaneously lead to violent reaction
25	oxidizing (fire-intensifying) gas
26	toxic gas
265	toxic gas, oxidizing (fire-intensifying)
266	highly toxic gas
268	toxic gas, corrosive
286	corrosive gas, toxic
30	flammable liquid or self-heating liquid
323	flammable liquid which reacts with water emitting flammable gases
X323	flammable liquid which reacts dangerously with water emitting flammable gases
33	highly flammable liquid (flash point below 21°C)
333	pyrophoric liquid
X333	pyrophoric liquid which reacts dangerously with water
336	highly flammable liquid, toxic
338	highly flammable liquid, corrosive
X338	highly flammable liquid, corrosive, which reacts dangerously with water
339	highly flammable liquid, which can spontaneously lead to violent reaction
36	self-heating liquid, toxic
362	flammable liquid, toxic
X362	flammable liquid, toxic, which reacts dangerously with water emitting flammable gases
38	self-heating liquid, corrosive
382	flammable liquid, corrosive, which reacts with water emitting flammable gases
X382	flammable liquid, corrosive, which reacts dangerously with water emitting flammable gases
39	flammable liquid, which can spontaneously lead to violent reaction
40	flammable self-heating solid
423	solid, which reacts with water emitting flammable gases
X423	flammable solid, which reacts dangerously with water emitting flammable gases
44	flammable solid, in molten state, at elevated temperature
446	flammable solid, toxic, in molten state, at elevated temperature
46	flammable or self-heating solid, toxic
462	toxic solid, which reacts with water emitting flammable gases
48	flammable or self-heating solid, corrosive
482	corrosive solid, which reacts with water emitting flammable gases
50	oxidizing (fire-intensifying) substance
539	flammable organic peroxide
55	strongly oxidizing substance
556	strongly oxidizing substance, toxic
558	strongly oxidizing substance, corrosive
559	strongly oxidizing substance, which can spontaneously lead to violent reaction
56	oxidizing substance, toxic
568	oxidizing substance, toxic, corrosive
58	oxidizing substance, corrosive
59	oxidizing substance which can spontaneously lead to violent reaction
60	toxic or harmful substance
63	toxic or harmful substance, flammable (flash point between 21°C and 55°C)
638	toxic or harmful substance, flammable (flash point between 21°C and 55°C),

	corrosive
639	toxic or harmful substance, flammable (flash point between 21°C and 55°C), which can spontaneously lead to violent reaction
66	highly toxic substance
663	highly toxic substance (flash point not above 55°C)
68	toxic or harmful substance, corrosive
69	toxic or harmful substance, which can spontaneously lead to violent reaction
70	radioactive material
72	radioactive gas
723	radioactive gas, flammable
73	radioactive liquid, flammable (flash point not above 55°C)
74	radioactive solid, flammable
75	radioactive material, oxidizing
76	radioactive material, toxic
78	radioactive material, corrosive
80	corrosive or slightly corrosive substance
X80	corrosive or slightly corrosive substance, which reacts dangerously with water
83	corrosive or slightly corrosive substance, flammable (flash point between 21°C and 55°C)
X83	corrosive or slightly corrosive substance, flammable (flash point between 21°C and 55°C), , which reacts dangerously with water
839	corrosive or slightly corrosive substance, flammable (flash point between 21°C and 55°C), which can spontaneously lead to violent reaction
X839	corrosive or slightly corrosive substance, flammable (flash point between 21°C and 55°C), which can spontaneously lead to violent reaction and which reacts dangerously with water
85	corrosive or slightly corrosive substance, oxidizing (fire-intensifying)
856	corrosive or slightly corrosive substance, oxidizing (fire-intensifying) and toxic
86	corrosive or slightly corrosive substance, toxic
88	highly corrosive substance
X88	highly corrosive substance, which reacts dangerously with water
883	highly corrosive substance, flammable (flash point between 21°C and 55°C)
885	highly corrosive substance, oxidizing (fire-intensifying)
886	highly corrosive substance, toxic
X886	highly corrosive substance, toxic, which reacts dangerously with water
89	corrosive or slightly corrosive substance, which can spontaneously lead to violent reaction
90	miscellaneous dangerous substance