

Compilation of Data on Accidents Involving Ammonium Nitrate

Date	Quantity of ammonium nitrate	Circumstances	Location	Accident consequences
4 Oct 1918	Not known	Munitions factory accident	Morgan, New Jersey	64 deaths
26 July 1921	30 tonnes	Disaggregation using blasting explosives	Kriewald, Germany (now Poland)	19 deaths
21 Sept 1921	450 tonnes mixed ammonium nitrate and sulphate	Disaggregation using dynamite	Oppau, Germany	561 deaths
1 Mar 1924	More than 2 million gallons of ammonium nitrate solution	Explosion and fire at processing plant	Nixon, New Jersey	20 deaths
21 July 1942	150 tonnes	Disaggregation using blasting explosives	Tessenderloo, Belgium	Several hundred deaths
28 April 1947	3300 tonnes	Cargo ship caught fire and exploded	Brest, France	29 deaths
16 April 1947	2600 tonnes	Cargo ship caught fire and exploded	Texas City, Texas	552 deaths, about 3000 injuries
23 Jan 1954	Not known	Cargos ship caught fire and was abandoned before explosion	Red Sea	No injuries
7 Aug 1959	Not known	Truck caught fire	Roseburg, Oregon	14 deaths, 125 injuries
17 Dec 1960	Not known	Freight train derailment, fire and explosion	Traskwood, USA	No injuries
1963	4000 tonnes	Self-sustained decomposition	Holland	No injuries
1965	4000 tonnes	Self-sustained decomposition	Atlantic	3 deaths
1966	Not known	Fire and explosion	USA	No injuries
1973	'a few tonnes'	Fire and explosion	USA	No injuries
1975	Not known	Self-sustained decomposition, starting by welding	Germany	1000 evacuated, no injuries
1978	17000 tonnes	Self-sustained decomposition	Yugoslavia	Mass evacuation, no injuries
1987	1450 tonnes	Local self-sustained decomposition, bulk not affected	France	Mass evacuation, no injuries
2 Aug 1994	"a few tonnes"	Explosions involved a mixture of ammonium nitrate, fuel and water	Papua New Guinea	11 deaths
13 Dec 1994	Not known	Explosion at processing plant	Port Neal, Iowa	4 deaths, 18 injured
29 Nov 1998	23 tonnes	Explosions following arson	Kansas City, Missouri	6 deaths
1998	4000 tonnes	Warehouse fire and explosion	Kentucky	Mass evacuation, no injuries
21 Sept 2001	200-300 tonnes	"Incident in the handling of the products"	Toulouse, France	31 deaths, 2500 injuries
9 Mar 2004	25 tonnes	Road traffic accident involving truck	Barracas, Spain	2 deaths, 3 injured
24 May 2004	20 tonnes	Road traffic accident involving truck	Mihaiesti, Romania	18 fatalities, 13 injured
22 April 2004	Not known	Freight train exploded near Chinese border	Ryongchon, North Korea	162 deaths, 3000 injuries
10 Sept 2007	22 tonnes	Road traffic accident involving truck	Monclova, Mexico	37 deaths, 150 injuries
30 July 2009	Not known	Fire at fertiliser plant	Bryan, Texas	Mass evacuation, minor injuries only
17 Apr 2013	Not known	Fire and explosion at fertiliser plant	West, Texas	At least 14 deaths and 160 injured

Sources: FP Lees, *Loss Prevention in the Process Industries*, Vol 3, 2nd Ed, Butterworth, 1996
M Braithwaite, Lecture notes, Loughborough, September 2008
http://en.wikipedia.org/wiki/Ammonium_nitrate_disasters