

Chemical of the Week – Part 2

Hazard Profile	
Chemical Name and Pseudonyms	Sodium nitrate, Chile saltpeter, Soda niter, Cubic niter
UN Number	1498
Chemical Formula	NaNO ₃
Hazards	Toxic, corrosive, oxidizer
NFPA Hazard Class (H-F-R-©)	2 – 0 – 2 – OX
PPE Considerations	CPC or SFPC with SCBA or appropriate filter mask based on assignment
Fire Fighting Considerations	Use appropriate extinguishing method for nearby combustibles
Decontamination	Water or water with surfactant
Detection and Monitoring	Colorimetric, raman,
Chemical and Physical Properties	
Physical State	Solid, white crystalline
Vapor Pressure	-
Boiling Point	716°F decomposes
Vapor Density	-
Specific Gravity	2.26
Miscibility	Soluble
Flash Point	-
LEL/UEL	-
Autoignition Temp	-
pH	Aqueous solution is neutral
Toxicity	
IDLH	As low as 50 ppm depending on solution
LC50	-
LD50	3236 mg/kg
AEGL1/AEGL 2/AEGL (10 Min)	- / - / -
Emergency Response Planning Guide (ERPG) 1/2/3	- / - / -
Protective Action Criteria (PAC) 1/2/3	4.1 / 45 / 270 mg/m ³
PEL/REL/STEL	15 / - / - mg/m ³
Radioactive (Yes/No)	No
Medical	
Toxicological Considerations	Toxic by inhalation (dust), ingestion, corrosive to skin and eyes
Signs/Symptoms of Exposure	Respiratory/skin/eye irritation, CNS s/s, cardiac

Medical Treatment	Fresh air, water flush, treat symptomatically, consider 1% methylene blue if symptomatic
Other Information	
A mixture of SODIUM NITRATE and sodium hypophosphite form an explosive mixture. Sodium nitrate and aluminum powder mixtures have been reported to be explosive. Incompatible with barium thiocyanate, antimony, arsenic trioxide/iron(II) sulfate, boron phosphide, calcium-sodium alloy, magnesium, metal amidosulfates, metal cyanides, powdered charcoal, peroxyformic acid, phenol/trifluoroacetic acid, sodium, sodium nitrite/sodium sulfide, sodium phosphinate, sodium thiosulfate, tris (cyclopentadienyl)cerium, and wood. Reacts with the Cellulose-Based and Expanded Polymeric Absorbents.	
Chemical Structure	
	