

## GHS Classification

**ID1395**

**Potassium nitrate**

**CAS 7757-79-1**

Date Classified: Mar. 23, 2006 (Environmental Hazards: Feb. 10, 2006)

**Physical Hazards**

Reference Manual: GHS Classification Manual (Feb. 10, 2006)

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Explosives	Not classified	-	-	-	UNRTDG Class: 5.1
2 Flammable gases	Not applicable	-	-	-	Solid (GHS definition)
3 Flammable aerosols	Not applicable	-	-	-	Not aerosol products
4 Oxidizing gases	Not applicable	-	-	-	Solid (GHS definition)
5 Gases under pressure	Not applicable	-	-	-	Solid (GHS definition)
6 Flammable liquids	Not applicable	-	-	-	Solid (GHS definition)
7 Flammable solids	Not classified	-	-	-	Non-combustible (ICSC (J) (2001))
8 Self-reactive substances and mixtures	Not applicable	-	-	-	Classified in oxidizing solids
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Not classified	-	-	-	Non-combustible (ICSC (J), 2001)
11 Self-heating substances and mixtures	Not classified	-	-	-	Non-combustible (ICSC(J), 2001)
12 Substances and mixtures, which in contact with water, emit flammable gases	Not classified	-	-	-	UNRTDG Class: 5.1
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Category 3	Flame over circle	Warning	May intensify fire; oxidizer	UNRTDG Class: 5.1; PG III
15 Organic peroxides	Not applicable	-	-	-	Inorganic substance
16 Corrosive to metals	Not classified	-	-	-	UNRTDG Class: 5.1

**Health Hazards**

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 5	-	Warning	May be harmful if swallowed	We calculated based on the rat LD50 values : 3750mg/kg (RTECS, 2005, IUCLID, 2000), 3540mg/kg (RTECS, 2005) and 3015mg/kg (IUCLID, 2000). The calculated value was 3229mg/kg, so the substance was classified as Category 5.
1 Acute toxicity (dermal)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: gas)	Not applicable	-	-	-	Solid (GHS definition)
1 Acute toxicity (inhalation: vapour)	Classification not possible	-	-	-	No data available
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	-	-	-	No data available
2 Skin corrosion / irritation	Category 2	Exclamation mark	Warning	Causes skin irritation	It was set as Category 2 from description that the skin is stimulated (ICSC (J) (2001), HSFS (2004), SITTIG (4th, 2002)).
3 Serious eye damage / eye irritation	Category 2A-2B	Exclamation mark	Warning	Causes serious eye irritation	It was set as Category 2A-2B from description that the eye is stimulated (ICSC (J) (2001), HSFS (2004), and SITTIG (4th, 2002)). Since there was no data about repairable, detailed categorization was not made.
4 Respiratory/skin sensitization	respiratory sensitization: Classification not possible; Skin sensitization: Classification not possible	-	-	-	No data available
5 Germ cell mutagenicity	Classification not possible	-	-	-	Classification not possible due to lack of data
6 Carcinogenicity	Classification not possible	-	-	-	No data available
7 Toxic to reproduction	Category 2	Health hazard	Warning	Suspected of damaging fertility or the unborn child	Although there is no description on general toxicity in parent animals, based on the descriptions that increase in miscarriage and fetal death were observed in water drinking administration tests using guinea pigs (RTECS (2005), IUCLID (2000), HSDB (2005)) and that malformation was observed in baby animals in two-generation reproduction studies by mixed feeds administering using rats (IUCLID (2000), HSDB (2005)). So it was set as Category 2.

8	Specific target organs/systemic toxicity following single exposure	Category 2 (blood system); Category 3 (respiratory tract irritation)	Health hazard; Exclamation mark	Warning	may cause damage to organs (blood system); May cause respiratory irritation or may cause drowsiness and dizziness (respiratory tract irritation)	From the description in RTECS (2005) that methemoglobinemia was observed in the oral administrations test in rats, and the description in ICSC (J) (2001), HSFS (2004), and SITTIG (4th, 2002) that methemoglobin may be generated, blood is considered as target organ and considered as Category 2. Moreover, from description in ICSC (J) (2001), HSFS (2004), and SITTIG (4th, 2002) that the airway is stimulated, it was judged that it has airway stimulativeness and was considered as Category 3.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (blood)	Health hazard	Warning	may cause damage to organs (blood) through prolonged or repeated	Since there was description that the symptoms of methemoglobinemia were observed in oral administration for 12 days in humans (HSDB (2005)), blood was considered to be target organ and classified into Category 2.
10	Aspiration hazard	Classification not possible	-	-	-	No data available

### Environmental Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
11 Hazardous to the aquatic environment (acute)	Not classified	-	-	-	It considered as the outside of Category from 48-hour TLm=490mg/L of Crustacea (Daphnia magna ) (IUCLID, 2000).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since not water-insoluble (water solubility=1g/2.8mL(PHYSROP Database, 2005)) and acute toxicity is low.