

## GHS Classification

**ID501**

**2-(Dimethylamino)ethyl methacrylate**

**CAS 2867-47-2**

Date Classified: Aug. 22, 2006 (Environmental Hazards: Mar. 31, 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 applicable	—	—	—	Containing no chemical groups with explosive properties
2 Flammable gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
3 Flammable aerosols	Not applicable	—	—	—	Not aerosol products
4 Oxidizing gases	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
5 Gases under pressure	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
6 Flammable liquids	Category 4	—	Warning	Combustible liquid	The flash point is 74degC (open cup flash test) (NFPA (13th, 2002)), which is classified into "Category 4."
7 Flammable solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
8 Self-reactive substances and mixtures	Not classified	—	—	—	No data available, though containing unsaturated bonds (olefin). Classified into Division 6.1 (UN#2522) (UN Recommendations on the Transport of Dangerous Goods)
9 Pyrophoric liquids	Not classified	—	—	—	Classified into Division 6.1 (UN#2522) (UN Recommendations on the Transport of Dangerous Goods)
10 Pyrophoric solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
11 Self-heating substances and mixtures	Classification not possible	—	—	—	Test methods applicable to liquid substances are not available.
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	—	—	—	Containing no metals or metalloids (B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At)
13 Oxidizing liquids	Not applicable	—	—	—	Organic compounds containing oxygen (but not fluorine and chlorine), with the oxygen bound to carbon and hydrogen (but not to other elements)
14 Oxidizing solids	Not applicable	—	—	—	Classified as "liquid" according to GHS definition
15 Organic peroxides	Not applicable	—	—	—	Organic compounds containing no "-O-O-" structure
16 Corrosive to metals	Not classified	—	—	—	Classified into Division 6.1 (UN#2522) (UN Recommendations on the Transport of Dangerous Goods)

## Health Hazards

Hazard class	Classification	symbol	signal word	hazard statement	Rational for the classification
1 Acute toxicity (oral)	Category 4	Exclamation mark	Warning	Harmful if swallowed	Based on the LD50 value of 1,550mg/kg calculated from the testing data of rat LD50 (oral route) of 1,751mg/kg, 2,659mg/kg and 1,550mg/kg (SIDS (2003)).
1 Acute toxicity (dermal)	Classification not possible	—	—	—	Insufficient data available
1 Acute toxicity (inhalation: gas)	Not applicable	—	—	—	Due to the fact that the substance is "liquid" according to the GHS definition and inhalation of its gas is not expected.
1 Acute toxicity (inhalation: vapour)	Category 1	Skull and crossbones	Danger	Fatal if inhaled	Based on the rat LC50 (4 hour inhalation) value of 0.62mg/L (equivalent to 95ppm) (SIDS (2003)) was lower than 90% of the saturated vapour concentration (2.480ppm) under a saturated vapour pressure of 250Pa (20degC), the substance was considered as "vapour containing substantially no mist" and was classified based on standard values expressed in ppm.
1 Acute toxicity (inhalation: dust, mist)	Classification not possible	—	—	—	No data available
2 Skin corrosion / irritation	Category 1A-1C	Corrosion	Danger	Causes severe skin burns and eye damage	Based on the description in the report on rabbit skin irritation tests (SIDS (2003)): "Severe erythema, edema and necrosis were observed immediately post-dosing. These symptoms persisted for 72 hours. The present substance was thus considered to have a potential for skin corrosivity." Although classified into Category 1A-1C, the substance should be placed in Category 1A from the viewpoint of safety if further subclassification is needed.
3 Serious eye damage / eye irritation	Category 1	Corrosion	Danger	Causes serious eye damage	Based on the description in the report on rabbit eye irritation tests (SIDS (2003)): "within 2 hours of application, all treated animals exhibited severe corneal, iris and conjunctival damage. The present substance was thus considered to have a potential for eye corrosivity."
4 Respiratory/skin sensitization	Respiratory sensitization: Classification not possible Skin sensitization: Not classified	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	(Respiratory sensitization) — (Skin sensitization) —	Respiratory sensitization: No data available Skin sensitization: Based on the description in the report on guinea pig skin sensitization tests performed in accordance with OECD 605 (SIDS (2003)): "There was no evidence of skin reactions induced by sensitization." "Negative." Also based on the description in the report on guinea pig skin sensitization tests evaluated according to Maximization Method (CERI Hazard Data 2001-55 (2002)): "No evidence of sensitization."
5 Germ cell mutagenicity	Not classified	—	—	—	Based on the absence of data on multi-generation mutagenicity tests and germ cell mutagenicity tests in vivo, and negative data on somatic cell mutagenicity tests in vivo (micronucleus tests), described in Report by the Ministry of Health, Labour and Welfare (1998), SIDS (2003) and CERI Hazard Data 2001-55 (2002).
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	Based on the evidence of underfeeding of the offspring probably due to impaired nursing functions of maternal animals (though maternal behaviours were observed) and increased neonatal mortality at doses producing parental toxicity, described in Report by the Ministry of Health, Labour and Welfare (1998), CERI Hazard Data 2001-55 (2002) and SIDS (2003).
8 Specific target organs/systemic toxicity following single exposure	Category 3 (narcotic effects)	Exclamation mark	Warning	(Narcotic effects) May cause drowsiness or dizziness	Based on the evidence from animal studies including "reduced locomotor activity and sedation" (SIDS (2003)).

9	Specific target organs/systemic toxicity following repeated exposure	Classification not possible	-	-	-	Insufficient data available
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)	Category 2	-	-	Toxic to aquatic life	It was classified into Category 2 from 72 hours ErC50=9mg/L of the algae (Selenastrum) (MOE Eco-Toxicity Tests of Chemicals, 1997).
11 Hazardous to the aquatic environment (chronic)	Not classified	-	-	-	Since there was rapidly degrading (it was hydrolyzed to methacrylic acid (the decomposition by BOD: 91%) and to N,N-dimethyl-N-ethanolamine (the decomposition by BOD: 60.5%) (Existing Chemical Safety Inspections Data)) and the bio-accumulation was low (log Kow=0.97 (PHYSPROP Database (2005))), it was classified into Not classified.