

## GHS Classification

**ID752**

**4-methoxy-m-phenylenediamine**

**CAS 615-05-4**

Date Classified: Apr. 20, 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	-	-	-	There are no chemical groups associated with explosive properties present in the molecules.
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	Classification not possible	-	-	-	No data available
8 Self-reactive substances and mixtures	Not applicable	-	-	-	There are no chemical groups associated with self-reactive properties present in the molecule.
9 Pyrophoric liquids	Not applicable	-	-	-	Solid (GHS definition)
10 Pyrophoric solids	Classification not possible	-	-	-	No data available
11 Self-heating substances and mixtures	Classification not possible	-	-	-	No data available
12 Substances and mixtures, which in contact with water, emit flammable gases	Not applicable	-	-	-	The chemical structure of the substance does not contain metals or metalloids(B, Si, P, Ge, As, Se, Sn, Sb, Te, Bi, Po, At).
13 Oxidizing liquids	Not applicable	-	-	-	Solid (GHS definition)
14 Oxidizing solids	Not applicable	-	-	-	Organic compounds containing oxygen (but not chlorine and fluorine) and the oxygen is chemically bonded only to carbon (but not to other elements).
15 Organic peroxides	Not applicable	-	-	-	Containing no -O-O- structure
16 Corrosive to metals	Classification not possible	-	-	-	Test methods applicable to solid substances are not available.

## 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	It was set as Category 4 based on 460mg/kg. This value was obtained from the statistical process using four data (DEGOT vol.6 (1994), RTECS (2005)).(One date was excluded because of range(IARC 79 (2001)).
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 3	-	Warning	Causes mild skin irritation	It was classified as "Category 3" because there was a result of Mild in examination on rabbits (DFGOT vol.6 (1994)).
3 Serious eye damage / eye irritation	Not classified	-	-	-	By the examination with a rabbit, since there was a non-stimulated result, it was carried out "Category Outside."
4 Respiratory/skin sensitization	Classification not possible; Skin sensitization: Not possible	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	(Respiratory sensitization)-; (Skin sensitization)-	Respiratory sensitization cannot be classified due to absence of data. Although there was a report of two cases about skin sensitization (DFGOT vol.6 (1994)), since one was non-sensitization and the other was at a low rate of positivity, it was put "outside of Category."
5 Germ cell mutagenicity	Category 2	Health hazard	Warning	Suspected of causing genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	In vivo somatic mutagenicity was positive in Comet assay and SCE assay, and we found the positive result for the in vitro examination (IARC 79 (2001)). Therefore we classified it as "Category 2".

6	Carcinogenicity	Category 2	Health hazard	Warning	Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)	There is a carcinogenesis bioassay report of NTP, and it is set as 2B by IARC, 2B by Japan Society for Occupational Health, and category 3 by EU. So it was set as "category 2." It generates cancer for thyroid in animals.
7	Toxic to reproduction	Classification not possible	-	-	-	Significant abnormalities are not observed in pregnant rat administration test. Since the pre-mating administration test is not conducted, it cannot be classified due to insufficient data.
8	Specific target organs/systemic toxicity following single exposure	Classification not possible	-	-	-	No data available.
9	Specific target organs/systemic toxicity following repeated exposure	Category 2 (oral, thyroid gland)	Health hazard	Warning	may cause damage to organs (oral, thyroid gland) through prolonged or repeated	It was classified into "Category 2" according to that abnormalities were observed in blood and thyroid in a rat by oral dose which is equivalent to the guidance value of Category 2 (DFGOT vol.9 (1994), IARC 79 (2001)).
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)	Classification not possible	-	-	-	No data available
11 Hazardous to the aquatic environment (chronic)	Classification not possible	-	-	-	No data available.