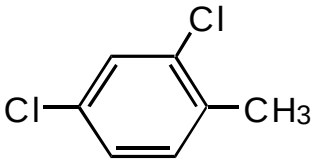
SIDS INITIAL ASSESSMENT PROFILE

CAS No.	95-73-8
Chemical Name	2,4-Dichlorotoluene
Structural Formula	

CONCLUSIONS AND RECOMMENDATIONS

It is currently considered of low potential risk and low priority for further work.

SHORT SUMMARY WHICH SUPPORTS THE REASONS FOR THE CONCLUSIONS AND RECOMMENDATIONS

Exposure

2,4-Dichlorotoluene is volatile liquid and the production volume is ca. 900 tonnes/year in 1990 – 1992 in Japan and 10,000 - 20,000 tones/year in 1984 in the EEC. This chemical is used as an intermediate for pesticides, drugs and chlorinated-nitrated benzenes in closed systems in Japan. This chemical is stable in neutral, acidic or alkaline solution, and is considered to be “not readily biodegradable”.

PECs have been calculated based on several models considering its physico-chemical properties (e.g. molecular weight, water solubility, vapour pressure and partition coefficient). The worst estimated concentrations were 1.0×10^{-8} mg/l (air), 2.5×10^{-6} mg/l (water), 9.3×10^{-4} mg/kg (soil), 1.2×10^{-3} mg/kg (sediment). A PEC_{local} was also calculated as 6.0×10^{-8} mg/l, based on a default scenario.

No monitoring data at the work place have been available. The chemical is manufactured in a closed system and is used as an intermediate for medicines etc. There are cases where the feeding to tanks and the filling are performed in open systems, but in these cases protective masks, gloves and goggles are used. So far no uses for consumers are known. Based on the physico-chemical properties, the level exposed indirectly through the environment was estimated as 3.4×10^{-4} mg/man/day. The daily intake through drinking water is estimated as 8.3×10^{-8} mg/kg/day and through fish is calculated as 2.1×10^{-6} mg/kg/day.

Environment

For the environment, various NOEC and LC_{50} values were gained from test results; 96h LC_{50} = 2.7 mg/l (acute fish); 24h EC_{50} = 19 mg/l (acute daphnia); 72h EC_{50} = 9.7 mg/l (acute algae); 21d NOEC = 2.0 mg/l (long-term daphnia reproduction). Therefore, the chemical is considered to be moderately toxic to fish and algae and slightly toxic to daphnids. As the lowest chronic toxicity data, the 21d-NOEC (reproduction) of *Daphnia magna* (2.0 mg/l) was adopted. An assessment factor of 100 was used to both acute and chronic toxicity data to determine PNEC according to the OECD Provisional Guidance for Initial Assessment of Aquatic Effects. Thus, the PNEC of the chemical is 0.02 mg/l in the present report. The PEC is lower than the PNEC. The environmental risk is presumably low.

Human Health

The chemical showed no genotoxic effects in bacteria and in a chromosomal aberration test *in vitro*.

In a combined repeat dose and reproductive/developmental toxicity screening test, dose dependent salivation was found in all treated groups. Toxicological significant changes in haematological and blood chemical examinations were found at the highest dose (e.g. decrease of platelet count). Increased liver and kidney weights were also found at the same level with pathological remarks (e.g. centrilobular swelling of hepatocytes). For reproductive/developmental end-points, a decrease of fertility was found in conjunction with normal copulation but with low pregnancy at the highest dose. However, no histopathological change related to infertility was seen in the paternal organs. Decreases of pup body weights were noted in the highest dose group during the lactation period. Therefore, the overall NOEL was less than 12.5 mg/kg/day for repeated dose toxicity and 79 mg/kg/day for reproductive toxicity.

As for indirect exposure via environment, the daily intake through drinking water is estimated to be 8.3×10^{-8} mg/kg/day and through fish is calculated as 2.1×10^{-6} mg/kg/day. The margin of safety is large. Therefore, health risk through the environment, in general, is considered to be presumably low due to its use pattern and exposure situation.

In conclusion, no further testing is needed at present considering its toxicity and exposure levels.

NATURE OF FURTHER WORK RECOMMENDED