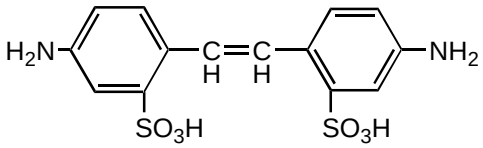
SIDS INITIAL ASSESSMENT PROFILE

CAS No.	81-11-8
Chemical Name	Benzenesulfonic acid, 2,2-(1,2-ethenediyl)bis(5-amino-
Structural Formula	

CONCLUSIONS AND RECOMMENDATIONS

The chemical does not reveal any remarkable toxicity or ecotoxicity when exposure is low.

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

Human Health

The chemical showed no genotoxic effects in bacteria and chromosomal aberration test *in vitro*. In a NTP chronic toxicity test using rats and mice, there were no biologically significant absolute or relative organ weight, clinical pathological, or histopathological findings in rat or mice. Mean body weights were marginally decreased for high-dose male and female rats and female mice. Food consumption in dosed rats and mice was similar to food consumption in the controls throughout the studies. Survival was similar among control and treated groups of rats and mice. Ulcers of the forestomach or glandular stomach occurred in dosed rats (males: 1/50, 5/50, 4/50, females: 0/50, 1/50, 4/50). The NOEL is estimated to be less than 558 mg/kg/day in rats for repeated dose toxicity. In a combined repeat dose and reproductive/developmental toxicity screening test, parental animals exhibited no effects on reproductive parameters and there were no significant differences in number of offspring, sex ratio, etc. and no abnormal findings in the offspring. Therefore, the NOEL was estimated to be 1000 mg/kg/day for reproductive toxicity.

As for indirect exposure via the environment, PEC was estimated to be $3.7 \times 10^{-2.}$ mg/l from a local exposure scenario. Therefore, the health risk through the environment, in general, is considered to be low due to its use pattern and exposure situation.

Environment

For the environment, various NOEC and LC_{50} values were gained from test results; LC_{50} = > 1000 mg/l (acute fish); EC_{50} = 210 mg/l (acute daphnia); EC_{50} = 76 mg/l (acute algae); NOEC = 32 mg/l (algae); NOEC = 37 mg/l (long-term daphnia reproduction). The lowest toxicity result (72h-NOEC, biomass, for *Selenastrum capricornutum*, 32 mg/l) was used to derive a PNEC. An assessment factor of 100 was used according to the OECD Provisional Guidance for Initial Assessment of Aquatic Effects. Thus, PNEC of the chemical is 0.32 mg/l in the present report. The PEC is lower than the PNEC. The environmental risk is presumed to be low.

Exposure

Production and import volumes of 4,4'-diamino-2,2'-stilbenedisulfonic acid (DSSA) in Japan is ca. 1,000 and 35-77 tonnes/year, respectively, in 1988-92. Production volume is 10,000 tonnes/year in Germany. This chemical is used as an intermediate for pigments and fluorescent brighteners in closed systems in Japan. This chemical is stable in neutral, acidic or alkaline solutions, and is considered to be "not readily biodegradable". Direct photodegradation is expected as this chemical absorbs UV light with half-life of about one week.

PEC_{local} have been calculated based on an emission and effluent scenario and a dilution factor. PEC_{local} for the aquatic compartment was 3.7×10^{-2} mg/l.

As DSSA is produced in a closed system, exposure during synthesis may be excluded. Workplace exposure through the inhalation route is possible when the raw materials are cast into vessels. However workers wear personal protective equipment (e.g. safety glasses, dust respirator, rubber gloves) during the filling process. Therefore, the exposure at the workplace is considered to be negligible. In addition, DSSA is not contained in consumer products, because it is an intermediate for industrial use.

NATURE OF FURTHER WORK RECOMMENDED

No further testing is needed at present considering its toxicity and exposure levels.