

## Alpha Methylstyrene



Chemical Name	Alpha Methylstyrene
Chemical Category (if applicable)	Styrene
Synonyms	alpha-Methyl styrene; Isopropenyl benzene; Benzene, (1-Methylethenyl); 1-Methyl-1-phenylethylene; 2-Phenylpropene; and AMS
CAS Number	98-83-9
CAS Name	Isopropenylbenzene
EC (EINECS) Number	202-705-0
Other identifier (Please specify)	GPS0066

## Description

- Alpha Methylstyrene (AMS) is produced as a co-product in the phenol production process. AMS is an intermediate chemical used in the manufacturing of plasticizers, resins, and in many polymerization production processes.
- Workplace exposures to AMS during its manufacture and use are expected to be minimal because exposures are controlled with process enclosures, local exhaust ventilation, and personal protective equipment. Good manufacturing practices and industrial hygiene practices are also implemented to prevent or reduce exposure to AMS. Worksite safety programs also follow recommended exposure guidelines. Please see the Safety Data Sheet (SDS) for additional information.
- AMS is a clear, colorless liquid with a strong aromatic odor that is stable under normal and recommended storage conditions, including the presence of an inhibitor. The liquid and vapor are flammable. In use, AMS may form a flammable/explosive vapor-air mixture. The flash point of 118°F (86.7°C) and the fact that AMS vapors are heavier than air have the potential to create conditions that may lead to explosions if there is a readily available static electricity or ignition source from equipment. NFPA-77 and/or API RP 2003 requirements are recommended to identify, assess, and control static electricity for purposes of preventing fires and explosions. AMS is incompatible with oxidizers, peroxides, halogenated compounds, catalysts for vinyl or ionic polymers, aluminum, iron trichloride, iron dichloride, and copper. AMS has potential to polymerize; strong acids may cause polymerization at room temperature. When AMS is heated to autoignition and decomposition (ca. 574°C/1065°F), decomposition products include carbon monoxide and carbon dioxide.
- Short-term exposure to AMS may cause eye, nose and respiratory irritation. Inhalation of high vapor concentrations may cause depression of the central nervous system (CNS), headache, dizziness, drowsiness, and nausea, and possibly unconsciousness. Ingestion of AMS causes irritation to the mouth and stomach.
- Prolonged or repeated skin contact with AMS liquid may cause defatting of the skin resulting in drying, redness and possibly blistering. Prolonged or repeated inhalation of AMS vapors may cause headache, dizziness, drowsiness, nausea, or other effects of the CNS. In a combined repeat oral dose and reproductive/developmental toxicity screening test, AMS caused moderate toxicity, producing effects in the kidney, liver, and thymus of test animals. In the same test, no evidence of reproductive/developmental toxicity was observed.

## Description *(Continued)*

- AMS did not show genotoxic effects in bacteria and chromosomal aberration tests *in vitro*.
- Currently, there is no evidence of carcinogenicity in humans occupationally exposed to AMS. However, AMS is considered possibly carcinogenic to humans based on results of experimental inhalation studies in which sufficient evidence for carcinogenicity was found in animals.
- AMS is moderately toxic to aquatic organisms (e.g., fish, invertebrates and algae). AMS is considered as not readily biodegradable and it has moderate bioaccumulation potential. The predicted environmental concentration is lower than the predicted no-effect concentration; therefore, AMS is currently considered to have low-potential risk to the environment.
- The U.S. EPA's Health and Environmental Effects Profile for AMS, prepared to 1) support listings of hazardous constituents of a wide range of waste streams under Section 3001 of the Resource Conservation and Recovery Act (RCRA) and 2) provide health-related limits for emergency actions under Section 101 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), determined that AMS is a systemic toxicant and estimated a reference dose (RfD) of 0.069 mg/kg/day for inhalation exposure. The RfD is defined as an estimate (with uncertainty spanning perhaps an order of magnitude) of the daily exposure to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effect during a lifetime. The reportable quantity (RQ) value for AMS is 1000.

## Useful Resources

For more information about this product, [contact AdvanSix](#).

### Contact AdvanSix

To learn more about AMS visit

[AdvanSix.com/chemicalintermediates](http://AdvanSix.com/chemicalintermediates)

or call:

**1-844-890-8949** (toll free, U.S./Can.)

**+1-973-526-1800** (international)

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