

(10) Dimethyl Phosphite, C<sub>2</sub>H<sub>5</sub>O<sub>3</sub>P  
CAS No. 868-85-9  
HS No. 29.20.90.90  
NIOSH/RTECS No. SZ771000

**Synonyms:** Dimethyl phosphonate; phosphonic acid dimethyl ester;  
Dimethyl hydrogen phosphite

**Physical properties:** MW: 110.05, bp: 170-171°, n<sub>D</sub><sup>20</sup> 1.4030,  
d.1.200

**Synthesis:** Reaction of methanol in dry benzene with the dropwise  
addition of phosphorus trichloride at temperatures below 10°.   
Yield 87% (R.A. mcIvor et. al, Can. J. Chem., 34, 1819(1956)).

**Toxicology:** Moderately toxic by dermal contact or ingestion, LD<sub>50</sub>  
is 3050 mg/kg (rat). Reported in EPA TSCA inventory. Emits PO<sub>x</sub>  
toxic fumes on decomposition.

**Uses:** Used for fireproofing, flame retardants, lubricant  
additive, pesticides and organic synthesis.

**Suppliers:** There are five suppliers listed: Mexico (1), USA  
(1), PRC (1), Germany (1) and Hungary (1).