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# Knovel

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dms0 hazards

Include Synonyms

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42 Results Sort By Relevancy

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Health Information

TABLE • From Knovel Solvents - A Properties Database

View Full Table Preview - 1 of 1 record. Full table shows more columns and functions.

name	IUPAC name	synonyms	acronym	chemical category	CAS registry no.	EC number	RTECS number	empirical formula
<i>Dimethyl sulfoxide</i>	methylsulfinylmethane	<a href="#">view synonyms</a>	DMSO	sulfoxide	67-68-5	200-664-3	PV6210000	C <sub>2</sub> H <sub>6</sub> O:

Hazard Properties of Miscellaneous solvents

TABLE • From Handbook of Organic Solvent Properties

View Full Table Preview - 1 of 1 record. Full table shows more columns and functions.

Solvent name	Solvent alternative name(s)	CAS number	UN number	flash point	autoignition temperature	electrical conductivity	lower explosive limit	upper explosi limit
Dimethylsulphoxide	DMSO, sulfinyl-bis-	67-68-5	-	95	255	2E-9	30000	420000

**Knovel search results for “DMSO hazards” filtered by Industry = “Chemicals”**

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Search: dms0 hazards

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**44 Results**

**2.3.2.2 Additive Hazards**

CHAPTER • From Safety and Health Aspects of HTRW Remediation Technologies - Engineering and Design (EM 1110-1-4007) (2003) > ... > 2.3 Hazard Analysis > 2.3.2 Chemical Hazards

Additive **Hazards**. Description. Additives (usually surfactants used in flushing) enhance exposure to contaminants by increasing dermal absorption and holding ... [More](#)

**DMSO**

CHAPTER • From Handbook of Solvents (3rd Edition) (2018) > DAA to Dutch liquid; Dutch oil

oral toxicity unless aspirated into lungs; questionable carcinogen; experimental tumorigen, teratogen; TSCA listed

Precaution: Combustible; LEL 0.6%; incompat. with strong ... [More](#)

[Other Editions](#)

**2.2 Index of Synonyms**

CHAPTER • From Fire and Explosion **Hazards** Handbook of Industrial Chemicals (1998) > 2. Index to Chemical Names and Synonyms

Adipate Dioctyl Phthalate Dioctyl Sodium Sulfosuccinate 1,2-Dichloroethylene 1,4-Dioxane 1,4-Dioxane 1,4-Dioxane Perchloric Acid Phthalic Anhydride46 Fire and ... [More](#)

**Dimethyl sulfoxide (Sulfinylbismethane) [67-68-5]**

CHAPTER • From Bretherick's Handbook of Reactive Chemical **Hazards** (8th Edition) (2017) > Copper(I) glycinate nitrate (Aqua)glycinatonitratocopper [94791-14-7] - Sodium nitro(nitroso)cyanomethanide [ ]

reactionthatejectedthetubecontents.Generalprecautions are suggested. Pierce, T. et al., Lab. Haz. Bull., 1984, (4), item

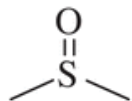
**Knovel search results for “DMSO hazards” filtered by Content Type = “Chapter”**



## †0917 Dimethyl sulfoxide (Sulfinylbismethane)

[67-68-5]

C<sub>2</sub>H<sub>6</sub>OS



HCS 1980, 435; RSC Lab. Hazard Data Sheet No. 11, 1983

Two instances of used DMSO decomposing exothermally while being kept at 150°C prior to recovery by vacuum distillation were investigated. Traces of alkyl bromides lead to a delayed, vigorous, and strongly exothermic reaction ( $Q = 0.85$  kJ/g) at 180°C. Adding zinc oxide as a stabilizer extends the induction period and markedly reduces the exothermicity [1]. ARC examination shows that exothermic decomposition sets in by a radical mechanism at 190°C, just above the b.p., 189°C. The proposed retardants, sodium carbonate and zinc oxide, do not affect the decomposition temperature, and a maximum decomposition pressure of 60 bar was attained (at up to 4 bar/min) at the low sample loading of 18 w/v% in the bomb [2]. The thermolytic degradation of the sulfoxide to give acidic products that catalyze further decomposition was discussed previously [3].  $T_{ait24}$  was determined as 213°C by adiabatic Dewar tests, with an apparent energy of activation of 243 kJ/mol. At elevated temperatures (200°C) DSC shows decomposition to be both faster and more energetic when chloroform or sodium hydroxide is present [4]. A conference paper presents real synthetic situations where the instability of the solvent, often increased by solutes, became a potential safety hazard [5].

## Knovel > Bretherick's Handbook of Reactive Chemical Hazards, 8th Edition

1. Brogli, F. *et al.*, *Proc. 3rd Int. Symp. Loss Prev. Safety Prom. Proc. Ind.*, 681–682, Basle, SSCI, 1980
2. Cardillo, P. *et al.*, *Chim. e Ind. (Milan)*, 1982, **44**, 231–234
3. Santosusso, T. M. *et al.*, *Tetrahedron Lett.*, 1974, 4255–4258
4. See THERMOCHEMISTRY AND EXOTHERMIC DECOMPOSITION (reference 2)
5. Lam, T. T. *et al.*, *J. Therm. Anal. & Calorimetry*, 2006, **85**(1), 25

See other [INDUCTION PERIOD INCIDENTS](#)

See other [SELF-ACCELERATING REACTIONS](#)