

MSDS
Material Safety Data Sheet

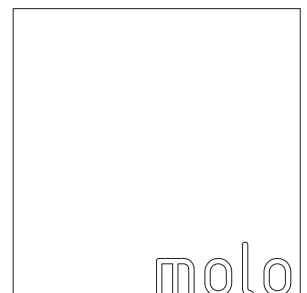
flame retardant for kraft paper products

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Material Safety Data Sheet (MSDS) for flame retardant used in molo kraft paper products

kraft paper softwall + softblock modular system and kraft paper softseating by molo are completely fire retardant and will not maintain flame. kraft paper softwall + softblock have passed the North American standard NFPA 701 and European standards M1 (France) and B2 (Germany). This rating is consistent with use in all types of occupancies. All products should always be kept away from any open flame or heat source to avoid possible damage.

The kraft paper used in molo products is treated with a Halogen-free flame retardant that is made from Phosphorus and Nitrogen compounds.

The flame retardant used *does not contain*:

- Halogen
- Chlorine compounds
- PBDE (Polybrominated Diphenyl Ether)
- TBBPA (TetrabromobisphenolA)
- Deca-BDE (Decabromodiphenyl Ether)
- TEPP (TetraethylPyrophosphate)
- or other brominated flame retardants

Please see MSDS sheets attached.

Material Safety Data Sheet (to requirement of Directive 91/155/EEC)

Date of Issue (February 2003)

1. Identification of the substance/preparation and of the company/undertaking

Trade name:
AFIRE-100

General chemical description: White crystalline powders

Company name:
DERFUH CHEMICAL IND.CO.,LTD

Contact:
DERFUH@HINET.NET

Emergency information:
+886 4 23593859

2. Hazards identification

Special hazards for man and environment according to 91/155/EC as amended Symbols of danger:
Not subject to the regulation.

R-phrases:
none

S-phrases:
none

3. Composition / information on ingredients

General chemical description:Phosphorus&nitrogen compounds

EINECS

CAS.NO: 7722-76
NO:231-764-5

4. First aid measures

General information:
In case of adverse health effects seek medical advice.

After inhalation:
not relevant.

After skin contact:
Rinse with running water.

After eye contact:
Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

After ingestion:
Drink 1-2 glasses of water, seek medical advice.

5. Fire fighting measures

Suitable extinguishing media:

foam , extinguishing powder, carbon dioxide
water spray jet

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

6. Accidental release measures

Personal precautions:

Not needed.

Environmental precautions:

Do not empty into drains / surface water / ground water.

Process for cleaning and take-up:

Remove with liquid-absorbing material (sand, peat, sawdust).

7. Handling and storage

Handling:

Minimise dust formation.

Storage:

Protect from contamination. Store in original

Store in original , unopened packages in clean ,cool , dry place.

8. Exposure controls / personal protection

Respiratory protection:

Not needed.

Air contamination limits:

Not listed but the 8-hour TWA limits of 10 mg/m³ for total dust and 5mg/m³

For respirable dust should not be exceeded.

Eye protection:

Protective goggles

General protection and hygiene measures:

Avoid skin-contact.

9. Physical and chemical properties

Form	Crystalline
State:	liquid
Color(s):	White
Odour	None
pH-value (1% soln)	4.5 at 25°C
Change in physical state	Melts above 160°C
Flash point	Not applicable
Solubility	35gm/100gm water at 20°C
Bulk Density	1.0 gm/cm ³
Ignition temperature	Does not burn or help other materials to burn.
Vapour pressure	Not applicable

10. Stability and reactivity

Materials to avoid:

Loses ammonia finally forming phosphorus pentoxide.

Hazardous thermal:

Decomposition products: Ammonia

11. Toxicological information

This material is of very low toxicity and when of sufficient purity (food grade) may be used as a food additive.

Exposed way: Following material is suitable for the common ammonium salt; after swallows, partial stimulation, gastric disorder, vomit, diarrhea.

System influence: After eating the massive, the blood pressure drops, prostration, anaesthesia.

Symptom: The eye test has the slight stimulation; the skin test has the slight stimulation.

Anxious toxicity: LD₅₀ (test on rabbit's skin): >7940mg/kg. LD₅₀ (eating test for mouse): 5750mg/kg.

Slow toxicity or long-term toxicity:

After skin contact, slight stimulation; after eye contact: slight stimulation.

After eating massively: the stomach is ill, the blood pressure drops, the destruction electrolyte is balanced.

12. Ecological information

Aquatic toxicity rating:

TLm 96 hr between 100 and 1000 ppm.

Orthophosphate may act as a plant nutrient and precipitate heavy metals.

13. Disposal considerations Product disposal:

Sweep up spillage and recover/recycle if possible.

Otherwise place in a fibre keg or paper sack and dispose as industrial waste.

14. Transport information General information:

Not classified as a substance hazardous for transport.

15. Regulatory information

Label according to Directives 67/548/EEC and 88/379/EEC

Not classified as a substance hazardous for transport.

16. Other information

This product has the following application:

Food grade:

-As a mold culture nutrient in the manufacture of pharmaceutical products.

-As a buffer, dough conditioner and yeast nutrient in food preparation.

Technical grade:

-As a fire retardant in fire extinguisher powders.

-As a fire retardant impregnation agent in textiles, hardboard, paper, cardboard, wood and matches.

-In the preparation of intumescent paints and vitreous enamel frits.

Published information includes:

"Waste Management" The Duty of Care COP' HMSO 1991 ISBN 011752557X.

"Storage of Packaged Dangerous Substances" HS(b)71, HMSO, 1992 ISBN 0118858897.

"Manual Handling" Guidance on Regulations L23 HMSO 1992 ISBN 0118863355.

TO: 合眾紙業/朱小姐

本公司供應貴公司(合眾紙業股份有限公司)阻燃劑 AF-100 為非鹵素族阻燃劑，
不含 PBDE (多溴二苯醚, Polybrominated Diphenyl Ether), TBBPA(四溴雙酚,
TetrabromobhsphenolA), Deca-BDE(十溴聯苯醚, Decabromodiphenyl Ether),
TEPP(焦磷酸四乙酯, TetraethylPyrophosphate) 及其他含溴元素或氯元素化合物
阻燃劑.茲以上說明及證明

The Company (Derfuh Chemical Ind. CO., LTD.) will supply your company (Union
Paper Corporation) with flame retardant, AF-100. The flame retardant is
Halogen-free. It does not contain PBDE (Polybrominated Diphenyl Ether), TBBPA
(TetrabromobhsphenolA), Deca-BDE (Decabromodiphenyl Ether), TEPP
(TetraethylPyrophosphate), or other brominated flame retardants or chlorine
compounds. Description and proof are hereby.

皇泰貿易有限公司

