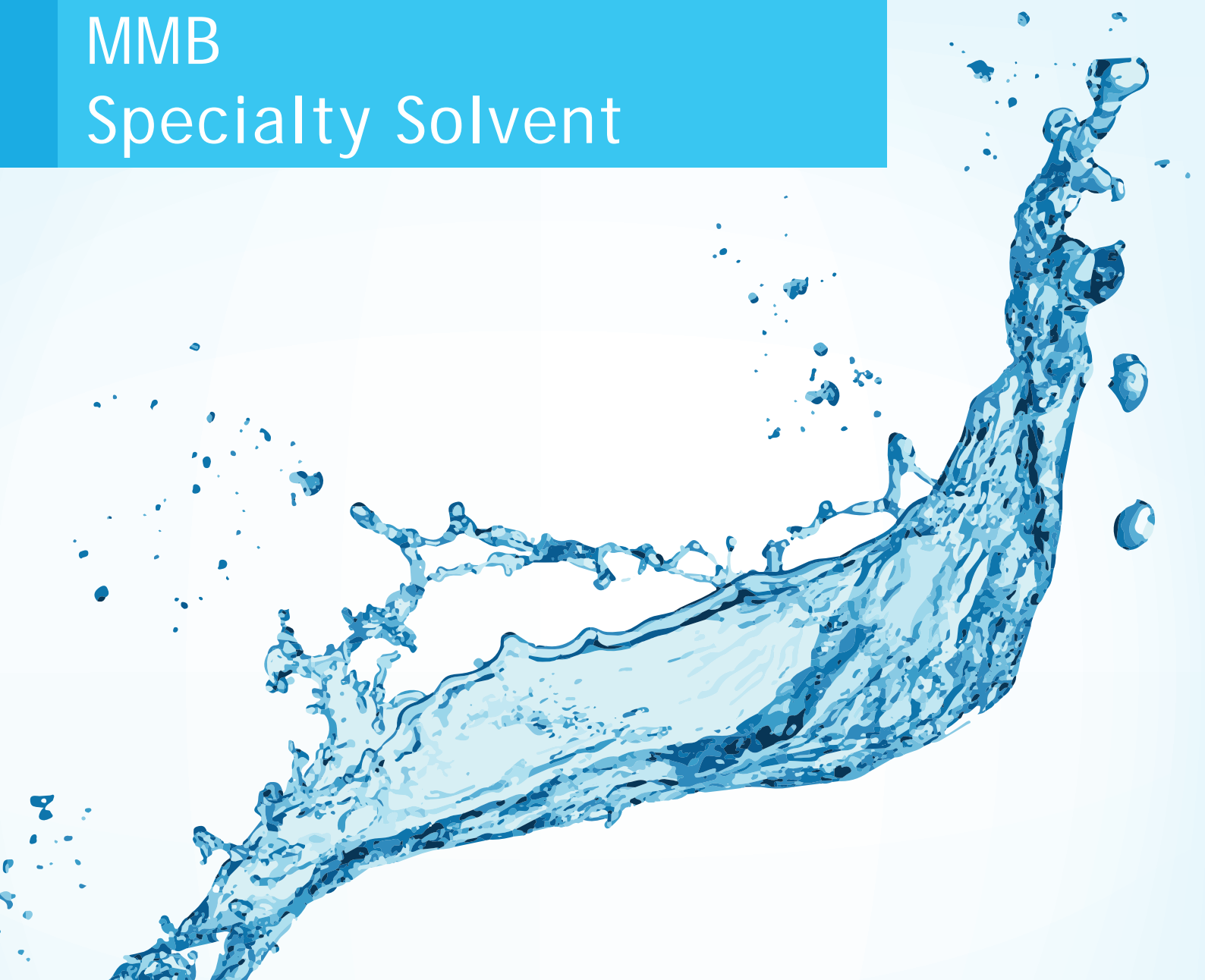


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MMB
Specialty Solvent



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MMB, an innovative multi-purpose ingredient for your formulations

MMB (3-methoxy-3-methyl-1-butanol) is a unique specialty solvent produced by Kuraray. It is a clear, colorless and completely water-soluble liquid with a mild odor. MMB is a polyvalent ingredient in your formulations and an outstanding solution for those who are concerned about the environmental issues thanks to its very favorable toxicity and biodegradability profile.

Features of MMB

Low toxicity and biodegradable - ingredient for European Ecolabel formulations, high flash point, stable versus autoxidation, stable a large range of pH, mild odor, translucent, amphiphilic, good solubilizer, evaporation rate adjuster, degreasing booster, azeotrope, co-solvent, hydrotrope, ...

Main applications

- Air freshener,
- Household cleaner,
- Industrial cleaner,
- Pesticide,
- Paint and Ink,
- Agriculture,
- Specialty cleaners,
- Others...

And more

Hand soap for heavy duty (INCI name), D Limonene synergies, NMP/ DMSO replacement, nail lacquer remover / coating remover in combination with well selected co-solvents, ...

Chemical Properties of MMB

Chemical Name: 3-methoxy-3-methyl-1-butanol

- CAS No. : 56539-66-3
- Boiling point (@760mmHg, 101kPa) : 173 °C
- Freezing point : <-50 °C
- Flash point (Tag's CC) : 71 °C
- Specific gravity(@20 °C) : 0.927
- Viscosity (@20 °C) : 12.5 mPa[Ⓜ]s
- Log Pow (@25 °C) : 0.18
- Solubility in water : Infinite
- Hansen Solubility Parameter : 9.88
- Evaporation rate (n-BuAc=100) : 7
- Vapor density (Air = 1) : 4.1
- Vapor pressure (@ 20 °C) : 0.07 kPa = 0.5 mmHg
- Surface Tension (@ 20 °C) : 29.9 dyne/cm
- Ignition point : 395 °C
- INCI Name : Methoxymethylbutanol

Plastics	Volume % vs Initial*
Rigid PVC	8
Soft PVC	9
Polyethylene (Low Density)	0
Polyethylene (High Density)	0
Polypropylene	0
Polystyrene	19
Polycarbonate	0
Polyacetal	0
PET	0
PBT	0
Polyphenylene Sulfide	0
6-Nylon	0
6,6-Nylon	0
Teflon®	0
Epoxy Glass	0
Acrylic Resin	Partially Dissolved
Phenol Resin	0
ABS	63

Effect on Elastomers

Elastomers	Volume % vs Initial*
Fluoro Rubber Viton®	82
Chloroprene Rubber	64
Butyl Rubber	0
Nitrile Rubber	115
Silicone Rubber	6
Ethylene Propylene Rubber	7
Natural Rubber	17
Urethane Rubber	129
SBR	26

* Volume increase % of test specimen (50x20x2 mm) after soaked in MMB at 50 °C for 7 days.

Worldwide registration



- AICS (Australia) : Listed
- CRC-SEPA (China) : Listed
- DSL (Canada) : Listed
- ECL (Korea) : Listed KE-24367
- ENCS (Japan) : Listed 2-3079
- NZIoC (New Zealand) : Listed
- PICCS (Philippine) : Listed
- REACH (EU) : Registered
- SWISS (Switzerland) : Listed G-117002
- TSCA (USA) : Listed

Biodegradability & Safety data



Biodegradability

- OECD 301 F By respirometry, Oxygen Evolution Test: 93 % within 28 days, (77% within 10 days window) - Readily biodegradable
Suitable for European Ecolabel developments

Safety data

- Acute Oral Toxicity : LD50 4.30g/kg (rats)
: LD50 5.83g/kg (mice)
- Dermal Irritation : 0.6 Slightly irritant (MMB 100%, rabbits, 28 days)
: 0.0 (MMB 50% (with DW), rabbits, 28 days)
- Skin sensitization : Negative
- Inhalation Toxicity : No significant change (rats/500 ppm/28 days)
- Mutagenicity : Negative (Ames test)
- Teratogenicity : Negative (Developmental NOEL 500 mg/kg, rat)

Applications

Air Care



- Electric plug-in • Fan • Car type
- Reed diffuser • Gel • Aerosol

Home Care & Institutional



- Fabric and Laundry Care • Dishwashing • Rinse aid • Kitchen cleaner • Oven cleaner
- All-Purpose-Cleaner • Hand cleaner • Dry soap • European Ecolabel formulations

Industrial Cleaner



- Metal parts degreasing • For Electronics
- Printed Circuit Board • Optical • Precision parts

Agriculture



- Solvent for Insecticide • Herbicide
- Fungicide • Pesticide

Paint and Ink



- Paint and coating remover • Specialty solvent for Offset & Ink jet
- Auxiliary products - blanket cleaner • Fountain solution

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- Precautions should be taken in handling and storing. Please refer to the appropriate Material Safety Data Sheet for further safety information
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- For medical, health care and food contact applications, please contact your representative for specific recommendations. Our products should not be used in any devices or materials intended for implantation in the human body
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