

1. Chemical product and company identification

A. Product name	Mowital
Synonyms	Product grades covered by this safety data sheet see below: Thin Film 050, Thin Film 075, Thin Film 100, Thin Film 250
B. Recommended use and Limitations on use	
Recommended use	For industrial use only. Laminates with glass, plastics, wood, ceramics, metal, fabrics, textile fibers and combinations therewith.
Manufacturer/Importer/Distributor information	
Supplier	
Company name	Kuraray Co., Ltd.
Address	Yongjam-ro, Nam-gu, #416 Ulsan, 44783 South Korea
Telephone number	+82 52 278 4100
E-mail address	pvb_inquiry@kuraray.co.jp
Emergency telephone number	+81-3-6701-1422 or +81-3689-08677 (Access Code: 334939)

2. Hazards identification

A. Hazard category/Classification	
Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
B. Warning label items including precautionary statement	
• Pictogram	None.
• Signal word	None.
• Hazard statement	Exempt (manufactured article).
• Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	No specific first aid measures noted.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)	None known.
Supplemental information	This product is an article and is not expected to release hazardous chemicals under normal conditions of use.

3. Composition/information on ingredients

Chemical identity	Common and alternative names	CAS number	ID number	Content in percent (%)
Polyvinyl Butyral		68648-78-2	-	>99

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
Polyvinyl butyral can also have CAS no 63148-65-2.

4. First aid measures

A. In case of eye contact	Rinse with water. Get medical attention if irritation develops and persists.
B. In case of skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
C. In case of inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
D. In case of swallowing	Rinse mouth. Get medical attention if symptoms occur.
E. Note to physician	Treat symptomatically.

Most important symptoms/effects, acute and delayed	Under normal conditions of intended use, this material does not pose a risk to health.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Water fog. Use fire-extinguishing media appropriate for surrounding materials. Foam. Dry powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.

B. Specific hazards arising from the chemical (example: hazardous combustion products)	During fire, gases hazardous to health may be formed.
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C. Specific methods of fire-fighting

Special protective equipment for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards	No unusual fire or explosion hazards noted. May burn, but does not ignite readily.
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6. Accidental release measures

A. Personal precautions, protective equipment and emergency measures	Wear appropriate personal protective equipment. For personal protection, see section 8 of the MSDS.
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B. Environmental precautions	Environmental manager must be informed of all major spillages.
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C. Methods and materials for containment and cleaning up	This product is miscible in water. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS. Sweep up or gather material and place in appropriate container for disposal.
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7. Handling and storage

A. Precautions for safe handling	Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands after handling.
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B. Conditions for safe storage (including any incompatibilities)	Store away from incompatible materials (see Section 10 of the SDS). Store in a cool, dry, well-ventilated place. Keep in original container. Read and follow manufacturer's recommendations
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8. Exposure controls/personal protection

A. Exposure limit values, biological limit values, etc

No exposure limits noted for ingredient(s).

Biological limit values	No biological exposure limits noted for the ingredient(s).
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B. Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
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C. Personal protective equipment

- **Respiratory protection** KOSHA Certified respiratory protection not required. In case of insufficient ventilation, wear suitable KOSHA Certified respiratory equipment.
- **Eye protection** Wear KOSHA Certified safety glasses with side shields (or goggles) .
- **Hand protection** Wear appropriate KOSHA Certified chemical resistant gloves. Suitable KOSHA Certified gloves can be recommended by the glove supplier.
- **Body protection** Wear suitable protective clothing.

Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
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9. Physical and chemical properties

A. Appearance

Physical state	Solid.
Form	Film.
Color	Colorless.

B. Odor	Odorless.
C. Odor threshold	Not applicable.
D. pH	Not applicable.
E. Melting point/freezing point	
Melting point	275 - 410 °F (135 - 210 °C)
F. Boiling point, initial boiling point, and boiling range	Not applicable
G. Flash point	Not applicable.
H. Evaporation rate	Not applicable.
I. Flammability (solid, gas)	Not available.
J. Upper/lower limit on flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
K. Vapor pressure	Not applicable.
L. Solubility	
Solubility (water)	Not soluble in water.
M. Vapor density	Not applicable.
N. Specific gravity	Not available.
O. n-octanol/water partition coefficient	Not available.
P. Auto-ignition temperature	> 716 °F (> 380 °C)
Q. Decomposition temperature	Not available.
R. Viscosity	Not applicable.
S. Molecular weight	234.25 g/mol

Other data

Dust explosion properties	
St class	1 Weak explosion.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Percent volatile	< 1 % w/w

10. Stability and reactivity

A. Stability and hazardous reaction potential

Stability	Material is stable under normal conditions.
Hazardous reaction potential	Hazardous polymerization does not occur.

B. Conditions to avoid (e.g. static discharge, shock or vibration, etc) Contact with incompatible materials.

C. Incompatible materials Strong oxidizing agents. Strong acids.

D. Hazardous decomposition products None known.

11. Toxicological information

A. Information on likely routes of exposure

- **Respiratory organs** No information available.
- **Skin** No adverse effects due to skin contact are expected.
- **Eyes** No adverse effects due to eye contact are expected.
- **Mouth** May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

B. Information on health hazards

- **Acute toxicity (list all possible routes of exposure)** No information available.

• Corrosivity or irritation to the skin	Based on available data, the classification criteria are not met.
• Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
• Respiratory sensitization	Due to partial or complete lack of data the classification is not possible.
• Skin sensitization	Due to partial or complete lack of data the classification is not possible.
• Carcinogenic properties /Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
• Mutagenic properties /Mutagenicity	Due to partial or complete lack of data the classification is not possible.
• Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
• Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
• Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
• Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.

12. Ecological information

A. Ecotoxicity	This product is an article and is not expected to release hazardous chemicals under normal conditions of use.
B. Persistence/degradability	No data is available on the degradability of this product.
C. Bioaccumulative potential	The product is not expected to bioaccumulate.
D. Mobility in soil	The product is immiscible with water and will sediment in water systems. This product is miscible in water.
E. Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

A. Method of disposal	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
B. Disposal considerations (including disposal of contaminated containers or packaging)	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

KRDG

A. UN number	Not applicable.
B. UN proper shipping name	Not applicable.
C. Transport hazard class(es)	
Class	Not applicable.
Subsidiary risk	-
D. Packing group	Not applicable.
E. Environmental hazards	No.
F. Special precautions for user	
Special precautions	Not applicable.

IATA

A. UN number	Not applicable.
B. UN proper shipping name	Not applicable.
C. Transport hazard class(es)	
Class	Not applicable.
Subsidiary risk	-
D. Packing group	Not applicable.
E. Environmental hazards	No.
F. Special precautions for user	Not applicable.

IMDG

A. UN number	Not applicable.
B. UN proper shipping name	Not applicable.
C. Transport hazard class(es)	
Class	Not applicable.
Subsidiary risk	-

D. Packing group Not applicable.

E. Environmental hazards

Marine pollutant No.

EmS Not applicable.

F. Special precautions for user Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

A. Restrictions under the Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacturing

Not regulated.

Harmful Substances Requiring Permission for Manufacture or Use

Not regulated.

Controlled Hazardous Substances

Not regulated.

Harmful Substances Requiring Special Medical Examination

Not regulated.

Workplace Environmental Monitoring Harmful Materials

Not regulated.

Occupational Exposure Limit

Not regulated.

B. Restrictions under the Chemicals Control Law (Previously Toxic Chemicals Control Law)

Accidental Release Prevention Substances

Not regulated.

Act on the Registration and Evaluation of Chemicals

Banned Toxic Chemicals

Not regulated.

Designated Existing Chemicals Subject to Registration (PEC) (MoE No. 2015-92)

Not listed.

Restricted Chemical Substances

Not regulated.

Toxic Chemicals

Not regulated.

C. Restrictions under the Dangerous Substance Safety Management Act

Not dangerous goods under the Dangerous Substance Safety Management Law

D. Restrictions under the Wastes Control Act

Halogenated Materials in Waste Organic Solvents

Not regulated.

Hazardous Substances

Not regulated

E. Restrictions under other foreign or domestic laws

Clean Air Conservation Act

Air Pollutants

Not regulated.

Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides (Rules on PIC, MoE No. 2014-252, Dec. 31, 2014; Standards for Pesticides, RDA No. 2014-26), as amended

Not listed.

Specific Air Pollutants

Not regulated.

Further information

This material safety data sheet was prepared in accordance with Article 41 of the Industrial Safety and Health Law.

16. Other information

A. Source of information

ECHA: European Chemical Agency.
IARC Monographs. Overall Evaluation of Carcinogenicity
KECI, January 27, 2015, amended through MoE 2016-138, July 13, 2016
Korea. Banned Chemicals (AREC "K-REACH" Article 27; Designation of Restricted or Banned Chemicals, Appendices 4 and 5)
Korea. Existing Chemicals Inventory (KECI, January 27, 2015)
Korea. Prohibited Chemical Substances (AREC "K-REACH" Article 27; Designation of Toxic, Restricted or Banned Chemicals Appendices 4 and 5)
Korea. Restricted Chemical Substances (AREC "K-REACH" Article 27; Designation of Toxic, Restricted or Banned Chemicals Appendices 2 and 3)
Korea. Restricted Chemicals (AREC "K-REACH" Article 27; Designation of Restricted or Banned Chemicals, Appendices 2 and 3)
Korea. Toxic Chemicals (AREC "K-REACH" Article 20; Designation of Toxic Chemicals, Appendix)
Korea. Toxic Chemicals (AREC "K-REACH" Article 20; Designation of Toxic, Restricted or Banned Chemicals Appendix 1)
Korea. Toxic Release Inventory (TRI) Chemicals (MOE Public Notice No. 2002-166, Nov. 8, 2002)
Korea. Dangerous Substances Threshold Quantity (Presidential Decree of Dangerous Substances Safety Management Act No. 18406, Schedule 1)
Korea. Harmful Substances Prohibited from Manufacturing (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 29)
Korea. Harmful Substances Requiring Permission for Manufacture or Use (Presidential Decree on the Industrial Safety and Health Act (No. 13053), Article 30)
Korea. Non-Toxic Chemicals List (National Institute of Environment Research (NIER) Public Notice No. 1997-10, as amended)
Korea. Observational Chemicals (Ministerial Decree of TCCL Article 6)
Korea. OELs. Regulation for Permitted Concentration of Hazardous Substances (Ministry of Labor (MOL) Public Notice No. 1986-45, as amended)
Korea. Regulated volatile organic compounds (VOCs) (MOE Notice No. 2001-36, March 8, 2001, as amended)
US. IARC Monographs on Occupational Exposures to Chemical Agents

B. Issue date

01-June-2015

C. Number of revisions and date of most recent revision

04-August-2020 (03 revision)

D. Other

Not available.

Disclaimer

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