



# MATERIAL SAFETY DATA SHEET

DAEHEUNG CHEMICAL CO., LTD. [www.dhcbond.com](http://www.dhcbond.com)

PGM

Product Name

D-2050

## 1. Product and Company Identification

- A. Product Name D-2050
- B. Recommended use of the chemical
- Recommended use of the chemical Bonding for polystyrene foam to concrete and wood, stile to concrete, metal etc.
  - Restrictions on use of the product Don't use except for the original purpose.
- C. Manufacturer/Supplier/Distributor Information
- Name DAEHEUNG CHEMICAL CO., LTD.
  - Address 68, Sandan-ro 64beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea
  - Emergency phone number +82-31-668-1424

## 2. Hazards identification

- A. Hazard-Risk Classification
- Flammable liquids: category 2  
Acute toxic(Oral): category 4  
Skin irritation: category 2  
Eye irritation: category 2  
specific target organ toxicity(single exposure): category1

### B. Label elements including precautionary statements

- Symbol



- Signal Word Danger
- Hazard-Risk Statement
  - H221 Flammable gas
  - H302 Harmful if swallowed
  - H315 Causes skin irritation
  - H319 Causes serious eye irritation
  - H370 Causes damage to organs
- Precautionary Statement
  - Prevention
    - P210 Keep away from heat/sparks/open flames/hot surfaces – No smoking
    - P260 Do not breathe dust/fume/gas/mist/vapours/spray
    - P264 Wash ... thoroughly after handling
    - P270 Do not eat, drink or smoke when using this product
    - P280 Wear protective gloves/protective clothing/eye protection/face protection
  - Response
    - P377 If eye irritation persists
    - P381 Eliminate all ignition sources if safe to do so
    - P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
    - P302+P352 IF ON SKIN: Wash with soap and water
    - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

Response	P307+P311 IF exposed: Call a POISON CENTER or doctor/physician P321 Specific treatment (see ... on this label) P330 Rinse mouth P332+313 If skin irritation occurs: Get medical advice/attention P337+313 If eye irritation persists get medical advice/attention P362 Take off contaminated clothing and wash before reuse
Storage	P403 Store in a well ventilated place P405 Store locked up
Disposal	P501 Dispose of contents/container to ...
C. Other Hazard-Risk which are not included in the classification criteria (e.g. dust explosion hazard)	
MEOH TLV 260 mg/m <sup>3</sup>	

### 3. Composition/Information on ingredients

Chemical Name	Other name	CAS number	Content(%)
Polyvinyl acetate	PVA, PVAc, poly(ethenyl ethanoate)	9003-20-7	45~55
Methanol	Methyl alcohol, Hydroxymethane	67-56-1	45~55
ADDITIVE	—	Trade Secrets	0.01~0.1

### 4. First aid measures

A. Eye contact	Wear appropriate eye protection to prevent eye contact.  Consult a physician if irritation persists.
B. Skin contact	Skin that becomes wet with liquid methyl alcohol should be promptly washed or showered. Eating and smoking should not be permitted in areas where liquid methyl alcohol is handled, processed, or stored.  Wear appropriate chemical protective goggles.  Most of solvent used are of dissolving natural oils of skin & causing dermatitis on hands of operators unless protective gloves & suitable barrier creams are used.
C. Inhalation	If affected, remove individual to fresh air. Use only in well ventilated areas.  Consult a physician if irritation persists.
D. Ingestion	Wear appropriate chemical protective gloves, boots, and goggles.
E. Indication of immediate medical attention and notes for physician	Consult a physician if irritation persists.

### 5. Fire-Fighting measures

A. Suitable (and unsuitable) extinguishing media	Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide.
B. hazards arising from the chemical (e.g. nature of any hazardous combustion products)	When it is exposed to the flame of heat, there is a danger.  The fume is heavier air and moves more distance, it could backfire by ignition sources.
C. Special protective equipment and precautions for fire-fighters	Shut off fuel if possible to do without hazard  Evacuate area and fight fire from a safe distance.  To the case where the formation fire occurs from the store area, it uses the unmanned hose carrier or the other atals, it must throw away  When the tank, the freight car and the tank truck are enveloped in fire, it will have to quarantine over half-mile(approximately 800m)  Apply water from a safe distance to cool and protect surrounding area.  Firefighters should wear proper protective equipment

## 6. Accidental release measures

### A. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.

Do not inhale the volatilized solvent directly.

In order to prevent the dangerous the approach other than the interested party.

### B. Environmental precautions and protective procedures

Do not allow to enter drains or waterways.

Do not discharge into the subsoil/soil

Absorb spills with waste or dry sand or earth, then place in a chemical waste container

For large spills, prevent them from entering into sewers, watercourse or low area by mounding soil, then recover to a chemical waste container.

### C. Methods and materials for containment and cleaning up

Take up with absorbent materials(sand, kieselguhr, universal binder)

Dispose of absorbed material in accordance with the regulations.

## 7. Handling and storage

### A. Precautions for safe handling

Wear suitable chemical resistant gloves, safety goggles, dust mask and other protective clothing.

Use in the well-ventilated areas. Prevent build-up electrostatic charge(by grounding).

Shower and eye bath. Keep away from acidic material.

### B. Conditions for safe storage (including any incompatibilities)

Store in its original container in a cool environment, keep away from heat, spark, and open flame. Ground containers during storage and transfer operations to avoid static spark.

Ideal storage temp. range for ease of handling is 10 ~ 27°C

## 8. Exposure controls & personal protection

### A. Control parameters (e.g. occupational exposure limit values, biological limit values)

#### – Occupational exposure limit values

Polyvinyl acetate

No data available

Methanol

TWA : 200ppm260mg/m<sup>3</sup> STEL : 250ppm310mg/m<sup>3</sup>

#### – ACGIH limit values

Polyvinyl acetate

No data available

Methanol

TWA 200 ppm STEL 250 ppm

#### – Biological limit values

No data available

### B. Appropriate engineering controls

In many processes significant quantities of solvent, monomer or plasticizer vapor may be evolved. These processes should be conducted in closed plant, or within enclosure or under hood to which exhaust ventilation is applied to remove fume before they enter air of workroom.

### C. Personal protective equipment

#### – Respiratory protection

A respirator that is recommended or approved for use may be necessary for spray application or other situations such as high temperature use which may produce inhalation exposures.

Respirator Recommendations: Escape: Any appropriate escape-type, self-contained breathing apparatus.

#### – Eye protection

Wear appropriate eye protection to prevent eye contact.

#### – Hands protection

Wear appropriate personal protective clothing to prevent skin contact.

#### – Body protection

Wear appropriate personal protective clothing to prevent skin contact.

## 9. Physical and chemical properties

A. Appearance	
Physical state	Viscous liquid
Color	Clear
B. Odour	Alcoholic odor
C. Odour threshold	The air odor threshold for methanol has been reported as 100 ppm. A level of 2,000 ppm ... is barely detectable. Methanol : Low threshold= 13.1150 mg/cu m; High threshold= 26840 mg/cu m; Irritating concn= 22875 mg/cu m.
D. pH	No date available
E. Melting point/freezing point	No date available
F. Initial boiling point and boiling range	63.9°C
G. Flashing point	10°C
H. Evaporation rate	No date available
I. Flammability(solid, gas)	No date available
J. Upper/lower flammability or explosive limits	36.5% / 6.0%
K. Vapor pressure	No date available
L. Solubility	INSOL IN WATER, GASOLINE, OILS & FATS
M. Vapor density	No date available
N. Relative density	0.9 (at 20°C)
O Partition coefficient:n-octanol/water	No date available
P. Auto-ignition temperature	No date available
Q. Decomposition temperature	No date available
R. Viscosity	6,500±100cps (at 25°C)
S. Formula mass	No date available

## 10. Stability and reactivity

A. Chemical stability and possibility of hazardous reactions	Stable under normal conditions
B. Conditions to avoid	Avoid the fire, spark, flame, and other ignition sources Store in tightly closed containers in a cool, well ventilated area away from heat.
C. Incompatible materials	flammable material
D. Hazardous decomposition products	CO, CO <sub>2</sub> , nitrogen compounds

## 11. Toxicological information

A. Information on the likely routes of exposure	Methanol : NIOSH (NOES Survey 1981–1983) has statistically estimated that 1,620,617 workers (388,352 of these are female) are potentially exposed to methanol in the US(1). Occupational exposure to methanol may occur through inhalation and dermal contact with this compound at workplaces where methanol is produced or used(SRC). Monitoring data indicate that the general population may be exposed to methanol via inhalation of ambient air, ingestion of food and drinking water(SRC).
B. Health hazards information	
– Acute toxic	
Oral	
Polyvinyl acetate	LD50 25000mg/kg–Rat (chemIDplus)
Methanol	LD50 > 1187 mg/kg–Rat Male/Female (ECHA)
Dermal	
Polyvinyl acetate	No data available
Methanol	LD50 15,800mg/kg–Rabbit (HSDB)
Inhalation	

Polyvinyl acetate	No data available
Methanol	Rat $\geq 0.27 \leq 13.3$ mg/L air, male, 6hr(ECHA)
- Skin corrosive/irritant	
Polyvinyl acetate	Causes skin irritation by short-term exposure(KOSHA)
Methanol	NIOSH (1981) reported that 45% of "spirit" duplicating machine operators at the University of Washington experienced some symptoms(blurred vision, headache, nausea, dizziness and eye irritation), consistent with the toxic effects of methanol.(EHC(1997))
- Serious eye damage/eye irritation	
Polyvinyl acetate	Causes skin irritation by short-term exposure(KOSHA)
Methanol	Methanol is an eye and skin irritant.(HSDB)
- Respiratory sensitization	No data available
- Skin sensitization	
Polyvinyl acetate	No data available
Methanol	In the rabbit, methanol is a moderately irritant to the eye.(EHC(1997))
- Carcinogenicity	
IARC	
Polyvinyl acetate	No data are available in humans. Inadequate evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 3: The agent is not classifiable as to its carcinogenicity to humans.(HSDB)
Methanol	No data available
- Germ Cell Mutagenicity	No data available
- Reproductive toxicity	No data available
- Specific target organ toxicity(single exposure)	
- Specific target organ toxicity(repeated exposure)	
	No data available
- Aspiration hazard	No data available

## 12. Ecological information

### A. Aquatic and terrestrial ecotoxicity

- Fish	
Polyvinyl acetate	No data available
Methanol	LC50: Species: Lepomis macrochirus (Bluegill); Conditions: flow through; Concentration: 15,400 mg/L for 96 hr(HSDB)
- Shellfish	
Polyvinyl acetate	No data available
Methanol	EC50: Species: Daphnia obtusa (Water flea) age <24 hr; Conditions: static, 20+/- 2 deg C, hardness 250 mg/L CaCO3, pH 7.8+/-0.2; Concentration: 22,200 mg/L for 48 hr; Effect: Immobilization /from table/(HSDB)
- Birds	
Polyvinyl acetate	No data available
Methanol	No data available

### B. Persistence and degradability

- Persistence	
Polyvinyl acetate	No data available
Methanol	-0.77 log kow
- degradability	
Polyvinyl acetate	No data available
Methanol	No data available

### C. Bioaccumulative potential

- Bioaccumulative	
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Polyvinyl acetate	No data available
Methanol	No data available
– Potential	
Polyvinyl acetate	No data available
Methanol	No data available
D. Mobility in soil	No data available
E. Other adverse effects	No data available

### 13. Disposal considerations

A. Disposal method	Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste numbers U154 and F003, must conform with USEPA regulations in storage, transportation, treatment and disposal of waste.
B. Disposal precaution	Waste methanol must never be discharged directly into sewers or surface waters. Large quantities of waste methanol can either be disposed of at licensed waste solvent disposal company or reclaimed by filtration and distillation. It can also be incinerated.

### 14. Transport information

A. UN number	1133
B. UN proper shipping name	ADHESIVES containing flammable liquid
C. Transport hazard class:	3
D. Packing group (if applicable)	II

### 15. Regulatory information

A. Industrial Safety and Health Act	
Polyvinyl acetate	Not Applicable
Methanol	Working environment measurement target material (measurement period: 6 months)
	Managed hazardous substances
	Special medical examination the substance (diagnostic period: 12 months)
	Exposure limits set material
B. Toxic Chemical Control Act	
Polyvinyl acetate	Not Applicable
Methanol	Awareness materials
	Toxic
C. Dangerous Material Safety Control Act	Not Applicable
D. Wastes Management Act	Designated Wastes
E. Other requirements in domestic and other countries	
– Domestic	Not Applicable
– Other countries	
OSHA	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
CERCLA	
Polyvinyl acetate	Not Applicable
Methanol	2267.995 kg 5000 lb
EPCRA 302	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
EPCRA 304	
Polyvinyl acetate	Not Applicable

Methanol	Not Applicable
EPCRA 313	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
Rotterdam Convention on material	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
Stockholm Convention on material	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
The Montreal Protocol on Substances	
Polyvinyl acetate	Not Applicable
Methanol	Not Applicable
EU classification information (Classification)	
Polyvinyl acetate	Not Applicable
Methanol	F; R11 T; R23/24/25–39/23/24/25
EU classification information (phrases)	
Polyvinyl acetate	Not Applicable
Methanol	R11, R23/24/25, R39/23/24/25
EU classification information (Safety phrases)	
Polyvinyl acetate	Not Applicable
Methanol	S1/2, S7, S16, S36/37, S45

## 16. Other information

### A. Information source and references

HSDB, ECHA, ICSC, KOSHA(Korea Occupational Safety and Health Agency), chemIDplus

B. Issuing date April 15, 2015

C. Revision number and date 2, August 26, 2021

D. others