

SAFTY DATA SHEET

Product name : DELPOWDER™
SDS reference number: AKDP-PW11(EN)
Prepared on Oct. 01, 2003
Revised on Dec. 4, 2023 (16)

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1. CHEMICAL AND COMPANY IDENTIFICATION

Product name : DELPOWDER™
560F, 60N, 70H, LP-1, 80NB, 720V, 80EB, 70HS, 80NEN
SDS reference number : AKDP-PW11(EN)
Company name of supplier : Asahi Kasei Corporation
Address : Hibiya Mitsui Tower, 1-2, Yuraku-cho 1-chome, Chiyoda-ku,
Tokyo, 100-0006
Department in charge : Acrylic Resin Sales & Marketing Department, MMA Division
TEL number : +81-3-6699-3286
FAX number : +81-3-6699-3460
Emergency contact : +81-44-271-4450 (<Weekdays> Mon-Fri: 9:00-18:00 JST)
(Acrylic Resin Development Department, MMA Division)
Recommended uses and restrictions on use (Recommended uses)
Adhesives, artificial marble, compound resin, etc.
(Restrictions on use)
This product should not be used for medical equipment and products that come into contact with human tissues or body fluids in the long term (30 days or longer), as well as for those that may come into contact with infants' mouth or swallow. If you are using this product for medical purposes not listed above, for food and drinking-water contact applications, for cosmetics, toys, sports applications, etc., please contact our Acrylic Resin Sales Department in advance. You can consult individually.

2. HAZARDS IDENTIFICATION

GHS Classification of the chemical : Skin sensitization (Category 1)
Carcinogenicity (Category 1B)

GHS label elements

Pictogram or symbol :



Signal word : Danger
Hazard statements : May cause allergic skin reaction.
May cause cancer.

Precautionary statements

for prevention;

Avoid breathing dust, or fume/mist/vapours which may generated from melted or burning products.
Wear protective gloves/protective clothing/eye protection/face protection.
Work clothing contaminated by beads/aggregates of generated gases from melted products should not be allowed out of the workplace.

for response;

Wash contaminated clothing before reuse.
IF ON SKIN: Wash with plenty of water and soap.
If skin irritation or rash occurs: Get medical advice/attention.
IF exposed or concerned to methyl acrylate from products: Get medical advice/attention.

for disposal;

Dispose of contents/bag in accordance with regional regulation. see section 13. DISPOSAL CONSIDERATION.

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Other hazards which do not result in classification : Heated resin may cause burn injury.
May form explosible dust-air mixture if dispersed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical substance/Mixture : Mixture
Chemical/general name : Methyl methacrylate / methyl acrylate copolymer
Common name/synonym : Methacrylic resin

Component, concentration range, Official Gazette Reference No. and common numbers that can identify chemicals (CAS Registry No).

Component	Methyl methacrylate / methyl acrylate copolymer	Methyl methacrylate	Methyl acrylate	Others
Concentration range	> 97.5 wt%	< 1.0 wt%	< 0.5 wt%	< 1.0 wt%
Official Gazette Reference No.	CSCL/ISHA* (6)-553	CSCL/ISHA* (2)-1036	CSCL/ISHA* (2)-987	All are existing chemical substances, but their numbers are trade secret and confidential
CAS Registry No.	9011-87-4	80-62-6	96-33-3	Trade secret and confidential

*CSCL = Chemical Substances Control Law in Japan,
ISHA = Industrial Safety and Health Act in Japan

As other components, the product contains antioxidants, weather stabilizers, lubricants, color adjustment agents, and the like, if necessary.

Colored products may contain Notifiable Substances at or above their cut-off limits under Industrial Safety and Health Act.

4. FIRST AID MEASURES

If inhaled : If dust is inhaled, move to fresh air.
If you feel sick by inhaling gases generated from hot melts, immediately move to fresh air and wait for recovery. If not recover, get medical advice/attention.

If on skin : Remove powders from not only skin but also from clothing, shoes, etc. Rinse further with water.
If aggregates of generated gases from hot melts adhere, wash well with soapy water.
If the molten resin adheres, apply a large amount of water over the top of the clothing to cool it thoroughly. After that, remove the clothing and get medical advice/attention immediately.

If in eyes : If dust, etc. is in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing until the discomfort disappears.
If discomfort remains, get ophthalmologist advice/attention.

If swallowed : Rinse inside the mouth well with water. The product is not a dangerous substance. Do not induce vomiting.
If discomfort remains, get medical advice/attention.

Precaution for protection of the person who gives the first aid : Wear heat-resistant gloves when removing melted resin, etc.

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5. FIRE-FIGHTING MEASURES

Suitable fire extinguishing media	: Water, water spay, powder extinguisher, foam extinguisher.
Unsuitable fire extinguishing media	: No information available.
Specific hazards arising at fire	: Precaution should be taken because black smoke and gas containing harmful carbon monoxide and volatiles such as monomers are generated at fire due to thermal decomposition or incomplete combustion.
Specific fire fighting method	: Fire extinguishing should be done from windward side. If not dangerous to do, remove the combustion sources to the fire. Use powder extinguisher for an initial fire. In the case of a large-scale fire, it is effective to shut off the air using foam extinguisher.
Special protective equipment and precautions for fire-fighters	: Surely wear protective equipment such as self-contained breathing apparatus, protective clothing, and protective gloves.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures	: If powders are scattered on roads or floors, they should be collected immediately because they are slippery.
Environmental precautions	: Because discharge of spilled materials to rivers, seas, etc. causes environmental pollution, collect all leaked materials quickly.
Methods and materials for containment and cleaning up	: In case of small quantities, sweep and collect with a vacuum cleaner, broom, etc. Scoop or sweep leaked materials and collect them in paper bags, drums, etc.
Prevention of secondary disaster	: Because the product is flammable, prohibit using of fire.

7. HANDLING AND STORAGE

Handling

Engineering measures	: If powdered resin is present, there is a possibility of dust explosion, therefore it is necessary to take measures against residence of them. To eliminate static electricity from equipment such as air transfer, bag filter and hopper, perform effective grounding. If necessary, perform dust explosion prevention measures such as using inert gases like nitrogen. In the case of air transfer, surely perform measures to prevent dust explosions such as using lower transfer rate and lower oxygen concentration in the air, etc.
Precautions for safe handling	: Handle in a well-ventilated area.
Contact avoidance	: No information available.

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Hygienic measures	: Wash hands and face thoroughly with soap after handling.
Storage	
Safe storage conditions	: Store in a place protected from direct sunlight, away from ignition sources, and without abrupt temperature changes, water leakage, or high humidity.
Safe container materials	: Since it is hygroscopic, use polyethylene bags, etc.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Acceptable concentrations, etc.	: If fume/mist/vapours generated from melted or burning products, apply the following values for Methyl Acrylate: Ministry of Health, Labor and Welfare Public Notice No. 177(2023) Control concentration: 2ppm (8hrs.) (Comes into effect April 1, 2024) The Japan Society for Occupational Health/2023 Acceptable concentration for Methyl Acrylate 2ppm、 7mg / m ³ Methyl Methacrylate 2ppm、 8.3mg / m ³ It is appropriate to apply the following values for dust: The Japan Society for Occupational Health/2023 Acceptable concentration as Class 3 dust Total dust: 8 mg/m ³ Respirable dust: 2 mg/m ³ ACGIH (American Conference of Governmental Industrial Hygienists)/2023 Recommended concentration as general dust INHALABLE PARTICULATE: <10 mg/m ³ RESPIRABLE PARTICULATE: < 3 mg/m ³
Facility measures	: If dust is generated, or steam/gas is generated by melt-kneading, etc., install an explosion-proof local exhaust ventilation system.
Protection equipment	
Respiratory protection	: Wear respirator with organic vapour cartridge, when gas is generated by melt-kneading, etc. Wear dust or powder mask to prevent inhalation of dust, etc.
Hand protection	: Wear use protective gloves so as not to touch the skin directly. It is preferable that they are made of PVA or LLDPE.
Eye/face protection	: Wear protective glasses, goggles, etc. to prevent powder, etc. from entering the eyes.
Skin and body protection	: Wear long-sleeved cuffs-closed working clothes to avoid direct skin contact. It is preferable to wear oil-resistant clothing, apron and put on oil-resistant shoes, etc.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Solid
Color	: White
Odor	: Almost none
Melting/Freezing point	: There is no clear melting point, but the product softens gradually from around 100° C.

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Boiling point, initial boiling point and boiling range	: No data available.						
Flammability	: Flammable solid.						
Lower and upper explosion limit /flammability limit	: Not applicable. Powder may form explosible mixture gas. Though minimum ignition energy is larger than that of flour or coal powder, the ignition energy become smaller as particle size become smaller. Therefore, measures to prevent dust explosion is necessary. Of DELPOWDER measured by the Hartmann-type blow-up test method at us as a reference value. Indicates the dust explosion characteristic value. For example, <table><thead><tr><th>Ave. particle size (mm)</th><th>Lower explosion limit (g/m³)</th></tr></thead><tbody><tr><td>0.32 (0.6% water content)</td><td>960~1,010</td></tr><tr><td>≤ 0.1 (0.7% water content)</td><td>100</td></tr></tbody></table>	Ave. particle size (mm)	Lower explosion limit (g/m ³)	0.32 (0.6% water content)	960~1,010	≤ 0.1 (0.7% water content)	100
Ave. particle size (mm)	Lower explosion limit (g/m ³)						
0.32 (0.6% water content)	960~1,010						
≤ 0.1 (0.7% water content)	100						
Flash point	: Not applicable.						
Auto ignition point	: Not applicable.						
Decomposition point	: No data available						
pH	: Not applicable.						
Kinematic viscosity	: Not applicable.						
Solubility							
in water	: Insoluble.						
in other solvents	: Soluble in aromatic hydrocarbons and ester groups.						
n-octanol/water partition coefficient (log value)	: Not applicable.						
Vapour pressure	: No data available.						
Density and/or relative density	: 1.19 g/cm ³ (23°C)						
Relative gas density	: Not applicable.						
Particle characteristics	: Powder form: Approximately spherical Average particle size: 100-450μm						

10. STABILITY AND REACTIVITY

Reactivity	: No self-reactivity.
Chemical stability	: Stable under general storage and handling.
Possibility of hazardous reactions	: No information available.
Conditions to avoid	: Storing at high temperature and high humidity.
Incompatible materials	: Burning materials, hot materials
Hazardous decomposition products	: Carbon monoxide, carbon dioxide, methyl methacrylate and methyl acrylate at high-temperature decomposition.

11. TOXICOLOGICAL INFORMATION

* The product contains less than 1.0 % of methyl methacrylate and less than 0.5% of methyl acrylate. Test data as mixture is not available, therefore hazard information on each component and GHS classifications as mixture are described below.

* This GHS classification is based on JIS Z 7252:2019 "Classification methods for chemicals, etc. based on GHS ". The hazard information of methyl methacrylate and methyl acrylate is based

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on the GHS classification result of National Institute of Technology and Evaluation.

	Resin component* ¹ Additives, etc.* ²	Methyl methacrylate	Methyl acrylate	Classification as mixture
Content	*1: >97.5 wt% *2: <1.0 wt%	< 1.0 wt%	<0.5 wt%	
Acute toxicity (oral)	Classification not possible	Not classified	Category 4	Classification not possible ((1) below)
Acute toxicity (dermal)	Classification not possible	Not classified	Category 4	Classification not possible ((2) below)
Acute toxicity (inhalation, vapour)	Classification not possible	Category 4	Category 3	Classification not possible ((3) below)
Acute toxicity (inhalation, Dusts and Mists)	Classification not possible	Classification not possible	Classification not possible	Classification not possible ((4) below)
Skin corrosion/irritation	Classification not possible	Category 2	Category 1	Classification not possible ((5) below)
Serious eye damage/eye irritation	Classification not possible	Category 2	Category 1	Classification not possible ((6) below)
Respiratory	Classification not possible	Category 1	Classification not possible	Classification not possible ((7) below)
Skin sensitization	Classification not possible	Category 1	Category 1A	Category 1 ((8) below)
Germ cell mutagenicity	Classification not possible	Classification not possible	Not Classified	Classification not possible ((9) below)
Carcinogenicity	Classification not possible	Classification not possible	Category 1B	Category 1 B ((10) below)
Reproductive toxicity	Classification not possible	Classification not possible	Classification not possible	Classification not possible ((11) below)
Specific target organ toxicity (single exposure)	Classification not possible	Category 1 (Respiratory system); Category 3 (Narcotic effects)	Category 3 (Respiratory tract irritation)	Classification not possible ((12) below)
Specific target organ toxicity (repeated exposure)	Classification not possible	Category 1 (nervous system, respiratory system)	Category 1 (Respiratory system)	Classification not possible ((13) below)
Aspiration hazard	Classification not possible	Classification not possible	Classification not possible	Classification not possible ((14) below)

- (1) The product is classified as '**Classification not possible**' because classification of methyl methacrylate is 'Not classified', and methyl acrylate is 'Category 3', but each content is less than 1 % and does not affect classification of the product.
- (2) The product is classified as '**Classification not possible**' because classification of methyl methacrylate is 'Not classified', and methyl acrylate is 'Category 4', but each content is less than 1% and does not affect classification of the product.
- (3) The product is classified as '**Classification not possible**' although classification of methyl methacrylate is 'Category 4', but the content of methyl methacrylate is less than 1 % and does not affect classification of the mixture.
- (4) The product is classified as '**Classification not possible**' because all components are classified as 'Classification not possible'.
- (5) The product is classified as '**Classification not possible**' although classification of methyl methacrylate is 'Category 2' and classification of methyl acrylate is 'Category 1', but the sum of 10 times methyl acrylate (Category 1) and methyl methacrylate (Category 2) is less than 10 % and does not affect classification of the mixture; and the contents of other components of 'Classification not possible' are 1 % or more.
- (6) The product is classified as '**Classification not possible**' although classification of methyl methacrylate is 'Category 2' and classification of methyl acrylate is 'Category 1', but the sum of

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10 times methyl acrylate (Category 1) and methyl methacrylate (Category 2) is less than 10 % and does not affect classification of the mixture; and the contents of other components of 'Classification not possible' are 1 % or more.

(7) The product is classified as '**Classification not possible**' because Methyl methacrylate (Category 1) is included, but the amount is less than 1% and does not fall under the category.

(8) Since methyl acrylate (Category 1A) contains 0.1% or more, the classification of this product is "**Category 1**".

(9) The product is classified as '**Classification not possible**' because classification of methyl methacrylate is 'Classification not possible' and classification of methyl acrylate is 'Not classified' and the contents of other components of '**Classification not possible**' are 0.1 % or more.

(10) Since methyl acrylate (Category 1B) contains 0.1% or more, the classification of this product is "**Category 1B**".

(11) The product is classified as '**Classification not possible**' because classification of methyl methacrylate and methyl acrylate are both 'Classification not possible' and the contents of other components of 'Classification not possible' are 0.1 % or more.

(12) The product is classified as '**Classification not possible**'; although containing methyl methacrylate of 'Category 1 (Respiratory system) as well as Category 3 (Narcotic effects)', and methyl acrylate of 'Category 1 (Central nervous system) as well as Category 3 (Respiratory tract irritation)', but the content is less than 1 % and regarded as 'Not applicable', furthermore, the contents of other components of 'Classification not possible' are 1 % or more.

(13) The product is classified as '**Classification not possible**'; although containing methyl methacrylate of 'Category 1 (respiratory system, nervous system)', and methyl acrylate of 'Category 1 (Respiratory system)', but the content is less than 1 % and regarded as 'Not applicable', furthermore, the contents of other components of 'Classification not possible' are 1 % or more.

(14) The product is classified as '**Classification not possible**' because all components are classified as 'Classification not possible'.

12. ECOLOGICAL INFORMATION

* The product contains less than 1.0 % of methyl methacrylate and less than 0.5 % of methyl acrylate. Test data as mixture is not available, therefore hazard information on each component and GHS classifications as mixture are described below.

* This GHS classification is based on JIS Z 7252:2019 "Classification methods for chemicals, etc. based on GHS ". The hazard information of methyl methacrylate and methyl acrylate are based on the GHS classification result of National Institute of Technology and Evaluation.

		Resin component*1 Additives, etc.*2	Methyl methacrylate	Methyl acrylate	Classification as mixture
Content		*1: >97.5wt% *2: <1.0 wt%	< 1.0 wt%	<0.5wt%	
Ecotoxicity	Aquatic toxicity, Short term (acute)	Classification not possible	Category 3	Category 2	Classification not possible ((1) below)
	Aquatic toxicity, Long term (chronic)	Classification not possible	Not classified	Category 2	Classification not possible ((2) below)
Hazards to the Ozone layer		Classification not possible	Classification not possible	Classification not possible	Classification not possible ((3) below)

(1) The product is classified as '**Classification not possible**' although classification of methyl methacrylate is 'Category 3' and methyl acrylate is 'Category 2', the content is less than 1 % and does not affect classification of the mixture.

(2) The product is classified as '**Classification not possible**' because classification of methyl methacrylate is 'Not classified' and methyl acrylate is 'Category 2', the content is less than 1 %

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and does not affect classification of the mixture.

(3) The product is classified as 'Classification not possible' because it does not contain components of the regulated substances listed in the Annex of the Montreal Protocol,

Persistence/degradability : No data available.
Bioaccumulation : No data available.
Mobility in soil : No data available.

13. DISPOSAL CONSIDERATION

Information on safe and environmental proper disposal or recycling of chemicals, polluted containers and packages : In principle, dispose of by incineration or landfill. When incinerating, the particle size is increased by granulation to eliminate the risk of dust explosion, use incineration facilities to treat and incinerate in accordance with Air Pollution Control Act, etc. When landfilling, treat in accordance with "Waste Management and Public Cleansing Act". Or consign to a specialized disposal contractor approved by the prefectural governor.
Do not dump or release in any oceans or waters to prevent marine pollution.
Dispose of empty bags properly without reuse or diversion.

14. TRANSPORT INFORMATION

International regulations
UN number : Not applicable.
UN class : Not applicable.
Special safety precautions related to transportation or means of transportation : Confirm no breakage, etc. of the bag before transport. Load the product in a way that does not cause tumbling, falling or damaging. Make sure to take measures to prevent load shift.
Japanese regulations if applicable
Marine regulations : Transport using the container and loading method in accordance with Act on Prevention of Marine Pollution and Maritime Disaster and Ship Safety Act.
Air regulations : Transport using the container and loading method in accordance with Civil Aeronautics Act.
Land regulations : Transport using the container and loading method in accordance with Road Act and Fire Service Act (Designated flammable goods (Synthetic resins)).

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15. REGULATION INFORMATION

Name of the applicable laws/regulations, and information on regulations based on the laws/regulations in Japan

Industrial Safety and Health Act

(Article 57-2, Order for Enforcement, Article 18-2, Attached Table 9) (Substances Subject to Notify Information on Danger or Harm, etc. (Notifiable Substance))

: Contains less than 1% of 'methyl methacrylate' (Cabinet Order Number: 557).

Contains less than 0.5% of methyl acrylate (Cabinet Order Number: 6)

(Article 577-2, Ordinance, comes into effect April 1, 2023)

(Carcinogenic Substances)

: Contains less than 0.5% of methyl acrylate

(Article 577-2, paragraph (2), Ordinance, comes into effect April 1, 2024) (Administrative Control Levels of Working Environment Evaluation Standards)

: Contains less than 0.5% of methyl acrylate

(Article 594-2, Ordinance, comes into effect April 1, 2024) (Personal Protective Equipment to Prevent Skin Disorder)

: Contains less than 0.5% of methyl acrylate

: Not applicable.

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR Act)

: Not applicable.

Poisonous and Deleterious Substances Control Act

Name of other applicable laws and information on regulations based on those laws in Japan

Fire Service Act

: Designated flammable goods -Synthetic resins (3,000 kg or more)

Waste Management and Public Cleansing Act

: Industrial Waste (Waste plastics)

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16. OTHER INFORMATION

1. This Safety Data Sheet (SDS) was prepared based on the most recent materials and data currently available. It may be revised due to new findings.
2. The precautions in the SDS are intended for normal handling. If you treat specially, use the product after implementing safety measures appropriate for the intended usage and use method.
3. Confirm suitability of the product with laws and regulations, specifications and standards, restrictions on use, etc. for your usage and safety/suitability of required properties corresponding to the usage at your company's liability, and determine whether it can be used or not.
4. If there are compounding agents or additives used with this product, the safety should be investigated by your company.
5. When information on safety of the product is required, contact Acrylic Resin Sales Department, MMA Division, Asahi Kasei Corporation.
6. We pay careful attention to the content of the SDS, but we do not guarantee it.

Contact: Acrylic Resin Sales Department, Asahi Kasei Corporation
Telephone No.: +81-3-6699-3286
