

GW-251 Emulsion-type (PFOA control product, Silicone-free)

Fluorocarbon mold release
agent DAIFREE™

Characteristics

DAIFREE™ GW-251 is a new mold release agent that matches the environmental regulations. It has the equivalent mold release performance as conventional ME-810 and ME-810D. Read the precautions carefully before using this product.

Features

Good release performance with the fluorocarbon as the principal ingredient. Highly precise release performance can be obtained with a thin film.

The composition complies with the regulations on environmental burden substances such as PFOA and ozone-depleting substances.

Being a silicone-free type, it is suitable especially for molding of electronic and electric parts.

Forms a dry coating with little transferal to the molded item, preventing it from becoming sticky.

Prevents molds from becoming contaminated, reducing the number of mold cleaning cycles and improving productivity.

Properties*

Appearance	Light yellow - yellow liquid
Specific gravity	1.02 (at 25°C)
Density of solid component	10 mass %
Principal solvent	Water
Recommended dilution multiples	1 - 10 times
Hazardous material classification	Nonhazardous material
Diluting solvent	Water (tap water, ion-exchange water) Avoid using groundwater or industrial water since it may impair emulsion stability.

*Typical properties are not suitable for specification purposes.

Scope of Application

Rubbers: SBR, NBR, EPDM, CR, U, FKM, etc.

Thermosetting resins: Epoxy, Non-saturated Polyester, Phenol resin, etc.

Thermoplastic resins: PE, PP, PVC, PS, ABS, PA, POM, PC, etc.

Comparison with conventional DAIFREE™ ME-810 and ME-810D

Item	GW-251	ME-810	ME-810D
Appearance	Opaque white liquid	Opaque white - light yellow liquid	Opaque white liquid
Specific gravity	1.02	1.01	1.01
Density of solid component (mass %)	10.0	10.0	1.7
pH	9.3	7	7
Principal solvent/diluent	Water	Water	Water
Recommended dilution multiples	Undiluted solution - 5 times	Undiluted solution - 5 times	Undiluted solution - 5 times
Fire Defense Law (Class 4)	Nonhazardous material	Nonhazardous material	Designated flammable material

Mold release test using semi-rigid urethane foam

Product number	Concentration	Release performance
GW-251	Undiluted solution	○
ME-810	Undiluted solution	○
ME-810D	Undiluted solution	○
Silicon emulsion	5 mass %	×

Release test conditions

Mold: 5.5 cm φ × 1 cm, aluminum

Release agent application method: Application by brush on mold heated to 120°C

Foaming and curing condition: 40°C × 10 min.

Release performance evaluation criteria

- : Releases when small force applied
- △: Releases when strong force applied
- ×: Does not release

Method of Use

Dilution

Use the mold release agent straight or dilute with water (desirably ion-exchange water) appropriately, and agitate it until uniformly mixed. Part of the ingredients may settle out. In that case, agitate the mold release agent well before use. If diluted, finish up the product immediately. Avoid long storage of dilute solution.

Application

Before using the product for the first time, remove the old mold release agent completely. Apply a uniform coating film using an air spray device, brush, or rag. When spraying on a mold, desirably spray the mold release agent lightly a few times. It is more effective to apply a few thin coating films of low concentration of the agent than to apply one thick coating film of high concentration of the agent. Be sure to use an appropriate amount of the agent since use of an excessive amount may result in mold contamination.

Cleaning the mold

Slight contamination or the mold release agent can usually be removed to a certain degree by wiping with a solvent (IPA, toluene, acetone, etc.). Alkaline cleaning agents are effective for complete removal. (Immerse in an approx. 10% aqueous solution of potassium hydroxide or sodium hydroxide to which a small amount of surface active agent has been added. The cleaning solution should be at a temperature of 60 - 80°C.)

Usable Temperature Range

Room temperature to 200°C

Cautions on Handling

Be sure to read the Safety Data Sheet (SDS) and precautions on the label before using this product.

Do not use this product for other than industrial purposes.

Store in a cool and dark place. Avoid long time storage at a temperature over 40°C.

This product has been developed for industrial purposes and we shall not guarantee the safety if used other than the above. If it is going to be used for medical and/or food applications, please contact us in advance.