(57393-02 -05)

33511-1005
-1007

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Rcvd 06-09-01

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
Douglas and Sturgess, Inc.	415-421-4456
ADDRESS (Number, Street, City, State, and ZIP Code) 730 Bryant St. San Francisco, CA 94107	
CHEMICAL NAME AND SYNONYMS Agar-Agar	TRADE NAME AND SYNONYMS Plastico Moulage
CHEMICAL FAMILY Colloid Moulage	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
NO HAZARDOUS INGREDIENTS		

V-1356

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	215°F	SPECIFIC GRAVITY (H_2O=1)	Greater than 1
VAPOR PRESSURE (mm Hg.)	N.A.	PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)	Greater than 1	EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER	Dilutable		
APPEARANCE AND ODOR	Off-White chunks, no discernable odor		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) Non- Flammable	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA N.A.			
SPECIAL FIRE FIGHTING PROCEDURES NA.			
UNUSUAL FIRE AND EXPLOSION HAZARDS N.A.			

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE N.A.

EFFECTS OF OVEREXPOSURE N.A.

EMERGENCY AND FIRST AID PROCEDURES N.A.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)* Do not use iron or steel utensils

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED If melted liquid is spilled, allow to cool and peel up. Solid may be disposed of as normal refuse.

WASTE DISPOSAL METHOD In land fill or in accordance with federal, state or local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)* None Required

VENTILATION		
	LOCAL EXHAUST None	SPECIAL
	MECHANICAL *(General)* None	OTHER

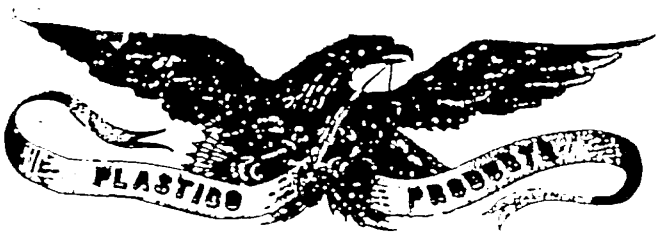
PROTECTIVE GLOVES	EYE PROTECTION
None	None

OTHER PROTECTIVE EQUIPMENT None

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Keep Material in airtight container when not in use.

OTHER PRECAUTIONS



MODELING · MOLDING · CASTIN(
MATERIALS AND EQUIPMENT!

APPLICABLE FOR PRODUCTION OR HOBBY CRAF

DOUGLAS & STURGESS

730 Bryant St. San Francisco. California 94107

DIRECTIONS FOR USING
PLASTICO MOULAGE MATERIALS

MOULAGE is a gelatinous material that when melted in a double boiler, becomes liquid and can in this state be used to make molds of almost anything. It is particularly useful in making molds of various parts of the body, as it is non toxic. A moulage mold can be remelted and reused over and over again, so this also makes it an economical mold material. Moulage is mainly used for casting wax (Posmoulage) or various kinds of gypsum (plaster) positives. Plastic resins and rubber materials do not work well in a moulage mold and will not be discussed here.

If you have never made any kind of mold before and you want to use the moulage materials, we suggest you try a small amount first and make a mold of your hand or finger to familiarize yourself with the process.

First, you will need a double boiler to melt the moulage in. This can be stainless steel, glass, or porcelain. (DO NOT USE ALUMINUM) Put the desired amount of moulage into the double boiler and heat until melted. It helps to stir the material often and the pot should be covered so that excess moisture is not allowed to evaporate. When the moulage becomes creamy and smooth, it is ready to use. If a mold is to be made of a living subject, it is necessary to cool the moulage to about 110°F before it is applied. To accelerate the cooling process, the bottom part of your double boiler should be filled with cold water and the moulage stirred constantly. After the material reaches an acceptable temperature, fill the bottom of your double boiler with hot water and proceed to make your mold. This will prevent the moulage from becoming too cool too fast.

For most surfaces, no mold release or lubricant will be needed. If hair on a person's head or face is to be included as part of a mold, it will sometimes be necessary to mat the hair down with petroleum jelly so that the moulage does not become embedded in the hair. (this will of course depend on the length of the hair) When making a mold of the face, it is a good idea to use cardboard to frame the face. This can be done by cutting a hole in a piece of cardboard so that the person's face just fits through. This will prevent the moulage from running into the ears and onto the back of the head.

Now you are ready to apply the moulage. The initial layer can be applied with a brush; but your hand will work well too. A completely cooled layer of moulage should not be allowed to form before more is applied, as you will get separations in your mold. Rubber tubes may be used in the nostrils so that your subject may breathe, but with a little practice, you will find that it is not too difficult to work around the nostrils so that no breathing tubes will be necessary.

Normally, a face mold must be supported in some way, because the moulage by itself is not enough to withstand the weight of the casting material without distorting. This mat be achieved by laminating wire screening (not aluminum) into the moulage, or by applying a plaster shell to the back of the mold.

If wire screening is to be used, it should be applied after the initial layer of moulage has been put onto the face. More moulage is applied over the screen and after the mold is cooled, it is taken off as a unit with the screen embedded inside the

moulage. Cotton gauze can also be used as a reinforcing agent, and is used in much the same way as the wire screening.

If a plaster shell is to be used, it is applied after the moulage has gelled, and again it is removed as a unit with the moulage. Normally the mold is removed from the face by lifting at the top of the head first,

One item that has been found to be invaluable when making a moulage mold, is a hand held blow dryer. This can be used to help cool the moulage as it is being applied, so that your subject doesn't have to "stay under" for quite so long.

Other parts of the body can be easily molded with moulage. Sometimes a unique Method can be used for a specific part. For example, a hand or foot can be put into a cloth bag that is filled with liquid moulage and then cut away when the moulage cools. For more information on other applications, refer to Molding and Casting by Carl Dame Clarke.

POSMOULAGE is a wax material that is used to cast into a moulage mold. It will reproduce the finest details, and like moulage can be used over and over again. Posmoulage can be melted directly over a low flame in a metal, glass, or porcelain pot. Do not allow the posmoulage to get too hot, as it can "flash". The posmoulage should be allowed to cool to about 130°F-140°F before it is poured into a moulage mold. Also, the moulage mold should be daubed dry before any posmoulage is poured into it. When pouring plaster into moulage, it is not necessary to dry the surface of the mold

MOULAGE HARDENER is a material that is used whenever an especially tough mold is desired. It has a tendency to thicken the moulage if too much is used and can also make the moulage stringy. As a rule 4-6 grams per pound of moulage is sufficient. Also, as the moulage is reused, it may be necessary to add a small amount of water each time it is remelted. Usually ¼-½ cup of water per pound of moulage is adequate. A little experience and you will be able to guage exactly how much water you will need to add depending on the application.

MAGIC SPRAY DUST HARDENER is a material that is used to harden the surface of soft dirt or sand. This is useful when one wants to make a mold of a foot print or other impression that would be distorted under normal mold making procedures. The dust hardener is applied with a hand sprayer and allowed to dry thoroughly. This will form a hard surface onto which the moulage can be applied. After the mold is completed and removed, it will probably be necessary to wash off any excess dirt or sand which has adhered to the moulage. This can be done by rinsing the mold in cold water and gently rubbing the surface.

With a little patience and practice, we're sure you will find that mastering the use of moulage materials is not too difficult.

Any recommendations, test results or suggestions are offered as a guide in the use of these materials. Inasmuch as the company has no control over the storage, handling and use to which others may put the materials, no guarantee expressed or implied is made regarding their stability or performance.