

MATERIAL SAFETY DATA SHEET (MSDS)

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

·PRODUCT NAME : Gray 800, White 1500, White 4000, White 6000, White 8000 Compounds
·NAME OF Supplier :
·ADDRESS :
·TELEPHONE NUMBER :
·FAX NUMBER :
EMERGENCY PHONE NUMBER : 800 255-3924 CHEMTEL

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/MIXTURE : MIXTURE (SOLID MOLDING TYPE)
CHEMICAL NAME : ALUMINUM OXIDE, FATTY ACID, Hydrogenated oil.

COMPOSITION/INFORMATION ON INGREDIENTS:

ALUMINUM OXIDE	70.7%
FATTY ACID	25.8%
OTHER (WAX AND ETC.)	3.5%

CHEMICAL FORMULA (CONSTITUTIONAL FORMULA, STRUCTURAL FORMULA) : $\alpha\text{-Al}_2\text{O}_3$, SiO_2 , Na_2O_2

CSCS No : 2-608

CAS No : 1344-28-1, 57-10-3, 57-11-4, 91078-95-4

HAZARDOUS INGREDIENTS THE LABOR INDUSTRIAL SAFETY AND HEALTH LAW.

ARTICLE 57 DESIGNATED CHEMICAL SUBSTANCE

190 ALUMINUM OXIDE APPROX. 70%

3. SUMMARY OF HAZARDS IDENTIFICATION

ADVERSE HUMAN HEALTH EFFECTS: IN CASE OF NORMAL HANDLING, TOXICITY AND IRRITANT PROPERTIES ARE CONSIDERED TO BE LOW. BUT IT IS POSSIBLE TO OCCUR COMPARATIVE SLIGHT IRRITANT TO EYES, RESPIRATION ORGAN SKIN AND MUCOUS MEMBRANE.

ENVIRONMENTAL EFFECTS : THE FATTY ACID CONTAINED IN THIS PRODUCT IS JUDGED TO BE GOOD AT RESOLUTION.

PHYSICAL AND CHEMICAL HAZARDS: IF THE FATTY ACID CONTACTS (BECOME HIGH TEMPERATURE) TO THE SOURCE OF IGNITION, IT WILL FLASH AND BURN. (THE LAW OF FIRE FIGHTING, DESIGNATED FLAMMABILITY) OR CONTACT TO ALCARI, IT WILL GENERATE FEVER.

CLASS NAME:

NOT APPLICABLE

4. FIRST-AID MEASURE

INHALATION : IN CASE OF A LOT OF DUST INHALATION DURING POLISHING OPERATION, LET THEM MOVE TO THE PLACE OF FRESH AIR AND BLOW ONE'S NOSE, GORGLER AND LET DUST OUT. DEPENDING UPON THE CONDITION OF DISEASES, CONSULT WITH DOCTOR.

SKIN CONTACT : WIPE WITH A PIECE OF CLOTH AND WASH WITH SOAP AND WATER. IF YOU FEEL SKIN TROUBLE, PUT PROTECTIVE CREAM.

EYE CONTACT : IMMEDIATELY WASH EYES WITH CLEAN WATER UNTIL REDUCTION OF IRRITATION BUT, DO NOT RUB EYES AS GRAIN IN ABRASIVES IS CONTAINED. CONSULT WITH DOCTOR IF YOU FEEL PAIN AND IRRITATION.

INGESTION : RINSE MOUTH WITH WATER. IF THE VICTIM SWALLOWS A LOT, MAKES HIM VOMIT AND CONSULT WITH DOCTOR IMMEDIATELY. IF THE VICTIM IS IN THE CONDITION OF CRAMP OR UNCONSCIOUSNESS, NEITHER GIVE ANYTHING TO DRINK NOR MAKE TO VOMIT.

5. FIRE FIGHTING & MEASURES

FIRE FIGHTING MEDIA: POWDER, CARBON DIOXIDE, BUBBLE, HALOGEN SUBSTANCE, FORTIFICATION LIQUID, DRYED SAND, ETC.

CAUTION!! DO NOT APPLY ANY WATER AS FIGHTING MEDIA AS IT WILL GENERATE FIRE AND DANGEROUS.

FIRE FIGHTING PROCEDURES: SHUT OFF FUEL TO FIRE AND IN THE BEGINNING OF FIRE, DRY CHEMICAL POWDER, CARBON DIOXIDE OR DRY SAND ARE USED. IN CASE OF LARGE-SCALE FIRE, FOAM EXTINGUISHING MEDIA IS EFFECTIVE TO SHUT OFF AIR. REMOVE CONTAINERS TO A SAFE PLACE, IF FEASIBLE.

EVACUATE NON ESSENCIAL PERSONNEL.

PROTECTION FOR FIRE FIGHTERS: THIS PRODUCT GENERATES CARBON OXIDES, HYDROGEN CARBON UPON COMBUSTION. SO, FIRE FIGHTING SHOULD BE DONE FROM UP-WIND WITH PROPER PROTECTIVE EQUIPEMENT.

6. ACCIDENTAL RELEASE MEASURES

FOR HUMAN BODY : WEAR PROPER PROTECTIVE EQUIPMENT.

FOR ENVIROMENTAL EFFECTS : DO NOT WASH AWAY INTO SHOWER OR WATERWAY.

FOR REMOVAL : ABSORB FLAKES AND FLASH WITH DETERGENT OR PLENTY AMOUNT OF WATER.

FOR PREVENTION OF FURTHER DISASTER: THOUGH THE FLASH POINT OF FATTY ACID CONTAINED IN THIS PRODUCT IS HIGH, IT IS DESIRABLE TO REMOVE SUBSTANCE IMMEDIATELY WHICH WILL BE THE SOURCE OF IGNITION AROUND AND PREPARE FOR EXTINGUISHING MATERIALS.

7. HANDLING AND STORAGE

HANDLING : ENGINEERING MEASURES (PREVENTION OF EXPOSURE AND FIRE EXPLOSION).

- IN CASE OF POLISHING OPERATION BY BUFFS WITH POLISHING COMPOUNDS, DUST GENERATES BY THE MATERIALS OF BUFFS AND GRAIN OF THE POLISHING COMPOUNDS ETC. IF YOU INHALATE DUST OF THESE POWDER AND FABRICS OF BUFFS FOR A LONG TIME, IT SPOILS LUNG ORGAN SLOWLY AND CAUSED HEART AND LUNGS DISEASES. THEREFORE, IT IS NECESSARY TO WEAR A PROTECTIVE MASK FOR PREVENTION OF INHALATION.
- WHEN USING OUTSIDE, OPERATE UPWIND AS MUCH AS POSSIBLE YOU CAN.

REMARKS

(LOCAL EXHAUST VENTILATION, GOOD GENERAL VENTILATION AND THE PREVENTION OF AEROSOL AND DUST GENERATION)

- ACCORDING TO THE CHAPTER 576&577 OF "LABOUR SAFETY AND HEALTH LAW" A WORKSHIP GENERATING FINE DUST SHOULD BE DESIGNATED AS A HAZARDOUS WORKSHIP AND AS A RULE, THE EMPLOYERS ARE OBLIGED TO TAKE THE NECESSARY PROCEDURES. FOR THE PREVENTION OF FINE DUST OBSTACLES SUCH AS NOT TO BE HARMFUL OF LOCAL EXHAUST VENTILATION AND GENERAL VENTILATION (NO. 22 ARTICLE OF LOABOUR SAFETY AND HEALTH LAW).
- NOT TO SCATTER LEA AND FLOOD, AND NOT LET THEM GENERATE VOPOUR.
- IF THIS PRODUCT ADHERES TO THE CONTROL PART OF FOLKLIFT, IT FEARS THAT THE CONTROL DOES NOT WORK, SO PRACTICE TO CLEAN INSIDE OF THE WORKING PLACE.

SAFETY HANDLING (PREVENTION OF MIXTURE CONTACT, AVOIDANCE OF CONTACT)

- KEEP AWAY FROM THE SOURCE OF IGNITON.
- AVOID FROM CONTACT BETWEEN HIGH TEMPERATED MATERIALS AND STRONG OXIDIZING AGENTS.

STORAGE:

ADEQUATE STORAGE CONDITION

- AVOID FROM DIRECT SUNSHINE AND KEEP COATED ABRASIVE IN MODERATE CONSTANT TEMPERATURE.
- AVOID FROM CONTACT WITH ALKALIC SUBSTANCE.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING MEASURES

- SET UP DUST COLLECTION DEVICE ON BUFF POLISHING DEVICE, TO SHUT OUT THE SOURCE OF GENERATION OF POLISHING DUST AND LOCAL EXHAUST VENTILATION.
- TO SET UP A WASH ROOM NEAR HANDLING PLACE AND INDICATE THE PLACE CLEARLY.

PROTECTION

RESPIRATORY PROTECTION: DUST RESPIRATOR

HAND PROTECTION : RUBBER GLOVE

EYE PROTECTION : SAFETY GOGGLES

HAND, SKIN, AND BODY PROTECTION : RUBBER BOOTS AND APRON AS APPROPRIATE.

ADEQUATE HYGIENE MEASURES

THE CHANGE OF MASK CAN BE DONE PERIODICALLY IN USE.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE FORM

FORM : SOLID
COLOUR : WHITE OR GRAY
ODOUR : FATTY ACID
PH : NEUTRAL

PHYSICAL STATE (SPECIFIED TEMPERATURE/TEMPERATURE SCOPE)

BOILING POINT : 232°C (15mmHg)
MELTING POINT : 55°C
FLASH POINT : 180~230°C
SPECIFIC GRAVITY : 2 (25°C)
SOLUBILITY FOR SOLVENT
WATER : DIFFICULT TO DISSOLVE
ASETON, ALCOHOL, ETHER, CHLORO FORM, BENZENE AND HEXANE : VERY SOLUBLE

10. STABILITY AND REACTIVITY

STABILITY : STABLE IN NORMAL CONDITION
REACTIVITY : THE FATTY ACID CONTAINED IN THIS PRODUCT HAS LESS PHYSICAL HAZARD AND HARMFUL. HOWEVER, IT REACTS WITH ALKALI SUBSTANCE SUCH AS POTASH SODA AND POTASH POTASSIUM AND GENERATE SALT EASILY.

AVOIDABLE CONDITIONS:

THE HANDLING UNDER THE NORMAL CONDITION IS STABLE. BUT IT SHOWS CORROSION ONCE IT CONTACTS WITH METAL SUCH AS IRON AND COPPER FOR A LONG TIME AFTER SOLUTION OF THE PRODUCT.
PHYSICAL HAZARD AND DECOMPOSITION PRODUCTS: NOT APPLICABLE.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY : NOT APPLICABLE
PARCIAL EFFECTS (SKIN AND EYES)
: IT IS POSSIBLE TO CAUSE IRRITATION TO RESPIRATION ORGAN, SKIN AND MUCOUS MEMBRANE.

12. ECOLOGICAL INFORMATION

BIOACCUMULATION AND BIODEGRADABILITY: THE FATTY ACID CONTAINED IN THIS PRODUCT IS JUDGED TO BE GOOD IN BIODEGRADABILITY.

13. DISPOSAL CONSIDERATION

IN ADDITION TO THE ARTICLE "HANDLING AND STORAGE", IT SHOULD BE DISPOSED BY THE APPLICABLE RULES.

14. TRANSPORT INFORMATION

INTERNATIONAL AGREEMENT: NOT APPLICABLE
CLASSIFICATION OF THE UNITED NATIONS: THE FATTY ACID CONTAINED IN THIS PRODUCT IS NOT APPLICABLE TO THE STANDARD OF THE UNITED NATIONS.

15. REGULATORY INFORMATION

ALUMINUM OXIDE
LABOUR SAFETY AND HEALTH LAW, WASTE DISPOSAL PREVENTION LAW.
HEART AND LUNGS DISEASES LAW, HEART AND LUNGS EXCUTION & RULE.
FATTY ACID
FIRE FIGHTING LAW: NON-DENGEROUS SUBSTANCE, DESIGNATED COMBUSTIBILITY, COMBUSTIBLE SOLID TYPE
(DESIGNATED AMOUNT 3,000 kgs).

16. OTHER INFORMATION

REFERENCES

- 1) GUIDELINES TO PREPARE MSDS
- 2) CHEMICAL PRODUCTS OF 14705
- 3) MSDS OF EACH MATERIAL USED

SUPPLEMENT

THE INFORMATION MENTIONED HERE IS BASED UPON DATA BELIEVED TO BE CORRECT, BUT NO GUARANTEE CAN BE MADE WITH IT. SINCE YOUR CONDITION OF USE IS BEYOND OUR MANAGEMENT AND RESPONSIBILITY, PLEASE MAKE SURE TO BE CAREFUL IN HANDLING IT.

REGULATIONS IN "MSDS" ARE JAPANESE ONES. IF YOU USE IT IN OTHER COUNTRIES, FOLLOW FEDERAL OR LOCAL REGULATIONS IN THE COUNTRY.