



**Processes List (Institute of Mining, Mineralogy and Metallurgy)**


1.

Name	:	Production of lead (Pb) free tin (Sn) based solder for electronic applications
Photo	:	
Short Description	:	Solder alloy is mainly used in electronics to join the components in printed circuit boards. It has a traditional application in plumbing to join pipes. This process is based on the theme of replacing toxic and health hazardous Pb-containing solders. The wide applications of this type of Pb- free solder will certainly help to protect environment & human health and to be compatible with the international regulations such as Restriction of Hazardous Substances Directive (ROHS) and European Union Waste Electrical and Electronic Equipment Directive (WEEE).


2.

Name	:	Preparation of Silica gel from rice husk ash
Photo	:	
Short Description	:	<u>Use:</u> The developed product Silica gel could be used as a moisture absorber and as a stationary phase for column chromatography. <u>Raw material:</u> Rice husk.


3.

Name	:	Production of ceramic tiles from rock dust mixed with shailpy clay.
Photo	:	
Short Description	:	<p><u>Use:</u> The developed tiles will be used for roof tiles, floor tiles, facing etc. Utilization of maximum amount of rock dust to develop high strength ceramic tiles</p> <p><u>Raw Materials:</u> Red clay of Northern area (Shailpy, Naogaon) and Rock Dust of Maddhapara Granite Mine Co Ltd, Dinajpur</p>


4.

Name	:	Development of cost effective and low temperature method for the production of ceramic tile from sitakunda shale (clay).
Photo	:	
Short Description	:	<p><u>Use:</u> The developed tiles will be used for roof tiles, floor tiles, facing etc. New source of raw material for ceramic industry.</p> <p><u>Raw Materials:</u> Red clay (Shale) of Sitakunda Upazilla, Chittagong District</p>


5.

Name	:	Preparation of Gem stones/precious stone from different rocks and minerals
Photo	:	
Short Description	:	<u>Use:</u> Gemstones/Precious Stone can be used as Jewelry or other adornments. <u>Raw materials:</u> Colorful granites, Pegmatites, Smoky Quartz, milky quartz etc. of Maddhapara Granite Mining Co. Ltd and as well as with some imported minerals like Amethyst, Lapis Lazuli etc. of India and Afghanistan


6.

Name	:	Manufacture of welding electrodes utilizing indigenous raw material.
Photo	:	
Short Description	:	<u>Use:</u> The process produces welding electrodes suitable for use in workshops for joining of Mild steel. <u>Raw materials:</u> Rutile, Ferromanganese etc.


7.

Name	:	Environmentally sustainable method of preparation of feedstock for products of aluminium (and its alloy) from used beverage cans.
Photo	:	
Short Description	:	<u>Use:</u> The developed process is useful for recycling of aluminum. <u>Raw materials:</u> Waste beverage cans


8.

Name	:	Extraction of alumina from the coal fly ash of Barapukuria thermal Power Plant.
Photo	:	
Short Description	:	<u>Use:</u> The extracted Alumina could be used as raw materials of ceramics, abrasives, super conductive devices, paint, refractory brick and as metal aluminum. <u>Raw materials:</u> coal fly ash of Barapukuria thermal Power Plant.


9.

Name	:	Preparation of copper sulphate from spent lime liquor.
Photo	:	
Short Description	:	<p><u>Use:</u> It is used as a dye, ripping fruits and many chemical purposes.</p> <p><u>Raw materials:</u> Lime liquor waste</p>

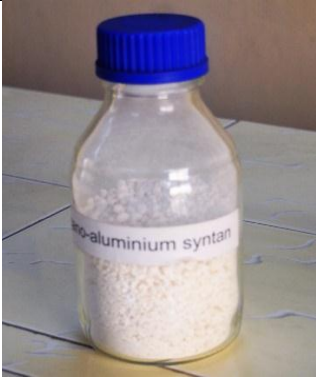
10.

Name	:	Isolation of chromic acid from the ash of chrome shaving dust.
Photo	:	
Short Description	:	<p><u>Use:</u> It could be used as a pigment.</p> <p><u>Raw materials:</u> Ash of chrome shaving dust</p>

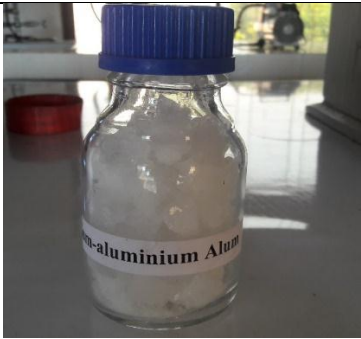
11.

Name	:	Production of aluminium sulphate from the ash of aluminium utensil industry.
Photo	:	
Short Description	:	<u>Use:</u> It is used for water purification. <u>Raw materials:</u> Ash of aluminium utensil industry.


12.

Name	:	Preparation of organo-aluminium syntan for leather processing.
Photo	:	
Short Description	:	<u>Use:</u> It is used as tanning of raw hides and skins for leather processing. <u>Raw materials:</u> Phenol, Sulfuric acid and Aluminum alum

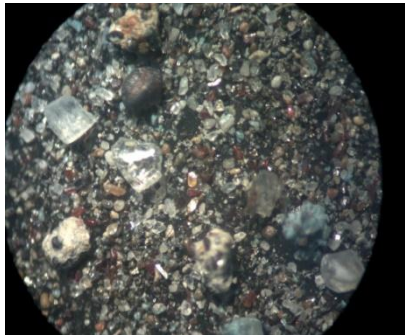
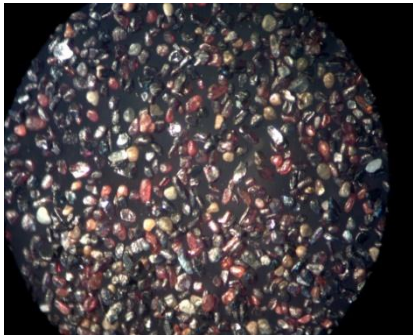
13.

Name	:	Preparation of aluminium alum from the wastes of aluminium utensil industry.
Photo	:	
Short Description	:	<u>Use:</u> It is used for treatment of drinking and waste water. <u>Raw materials:</u> Aluminum containing ash


14.

Name	:	Preparation of zeolite from industrial wastes.
Photo	:	
Short Description	:	<u>Use:</u> It is used for water purification and heavy metal removal for drinking water. <u>Raw materials:</u> Rice mill boiler ash.

15.


Name	:	Recovery of rutile mineral from arc electrode waste.	
Photo	:		
		Electrode Dust	Recovered Rutile
Short Description	:	<p>Use: The developed process is environmental friendly. The recovered rutile minerals will be used for making new arc electrodes.</p> <p>Raw materials: Arc Electrode Waste</p>	

16.


Name	:	Production of activated carbon from sawdust.	
Photo	:		
Short Description	:	<p>This product was produced from locally available saw dust. Prepared product is in powdered form and highly porous. Generally powdered activated carbon is used in effluent treatment plant (ETP). This product can be used specially for the color removal of waste water or industrial effluent.</p>	




17.

Name	:	<b>Development of artificial granite rock block using Maddhapara hard rock dust</b>
Photo	:	
Short Description	:	This process carried out with Different sizes rock dusts of Maddhapara Granite Mine Co Ltd, Dinajpur. This technology used rock dust as an alternative use of sand and coarse grain for construction purposes

18.

Name	:	Primary ingredients of silica based primer from rice mill boiler ash
Photo	:	
Short Description	:	Primary ingredient of silica-based primer is a promising product which is prepared from rice mill boiler ash of Joypurhat. The main use of this product in painting industries. It can also be used as raw material for the manufacturing of primer, a anti corrosive materials for metal-based structure.

Name	:	Development of sustainable and environment friendly pavement blocks using rice husk ash
Photo	:	
Short Description	:	Rice husk ash (RHA) could be used in construction purposes and these resources may be new raw materials for construction industries.