

MATERIAL SAFETY DATA SHEET (MSDS) ACM0

1. PRODUCT AND COMPANY INFORMATION

- Product Name: ACM0 Recycled Mixed Plastic
- Manufacturer: RECOVER Systems GmbH, D-07806 Weira, Anne-Frank-Strasse 1
- MSDS date: 04.02.2005
- Intended Use: To be further processed in injection system
- Emergency phone: 0049-36484-645-0

2. COMPOSITION/INFORMATION ON INGREDIENTS

- Material is originated from collections of industrial left-over of the manufacturing of hygienic products, mainly composed out of cellulose fluff, plastic film and plastic non-woven and may contain all ingredients available in new hygienic products (diapers, underpads, etc.) , as there are:
 - Plastic Components (accumulated during recycling process)
 - Polyethylene (significant)
 - Polypropylene (significant)
 - Superabsorbent polymer
 - etc.
 - Non Plastic Components (stripped during recycling process)
 - Cellulose fibre (significant)
 - Paper
 - Rubber band
 - etc.
- Material is treated with separation technologies, which strip inorganic and organic ingredients by density, magnetic properties and size.
- Material originates fully from the recycling of products, which have been manufactured according to high hygienic standards

3. HAZARDS IDENTIFICATION

Warning!

- Flammable! Do not expose to fire or extreme heat!

The molten product adheres to the skin and causes burns.
Spilled material may present a slipping hazard.

Potential Health Effects:

Routes of Entry: Inhalation: NO Ingestion: YES Skin: NO
Health Hazards: May contain small objects, which may be swallowed

4. FIRST AID MEASURES

General information

- At room temperature the product is neither an irritant nor gives off hazardous vapours.
- The measures listed below apply to critical situations (Fire, incorrect process conditions).

After inhalation

- In case of excessive inhalation of fumes move the person to fresh air. Call for medical help.

After skin contact

- After contact with the molten product, cool rapidly with cold water.
- Do not pull solidified product away from the skin.

MATERIAL SAFETY DATA SHEET (MSDS) ACM0

- Seek immediate medical advice.

After eye contact

- Rinse opened eye for several minutes under running water.

After swallowing

- No specific measures have to be taken if the product is swallowed.

5. FIRE FIGHTING MEASURES

Suitable extinguishing agents

- Water haze
- Foam
- Chemical powder
-

For safety reasons unsuitable extinguishing agents Water jet.

Special hazards caused by the material, its products of combustion or resulting gases:

- In case of fire it can release: water (H₂O), carbon dioxide (CO₂), and when lacking oxygen (O₂), carbon monoxide (CO)
- The products of the burning are dangerous.

Protective equipment:

- Use a mask with universal filter.
- Use self-contained breathing apparatus within confined rooms.

Additional information Heat value: 12,2 kWh/kg

6. ACCIDENTIAL RELEASE MEASURES

- | | |
|--|--|
| • Person-related safety precautions: | Particular danger of slipping on leaked/spilled product. |
| • Measures for environmental protection: | No special measures required. |
| • Measures for cleaning/collecting: | Recycle product or dispose properly. |
| • Additional information: | Spilled material may present a slipping hazard |

7. HANDLING AND STORAGE

General

- As with all combustible bulk, material must not be handled or stored or transported, when core temperature of bulked material is more than 40 °C.
- In combination with high air humidity and high core temperatures (> 60°C) auto-ignition of big-bags, containing the material, has been reported very infrequently.
- Before shipping, the core temperature of each packaging has to be checked to be less than 40 °C.
- Increased surface temperature (<60°C) does not seem to cause this effect.

Handling

- No special requirements necessary, if handled at room temperature.
- Avoid spilling the product, as this might cause falls.

MATERIAL SAFETY DATA SHEET (MSDS) ACM0

- When bringing the material to processing temperatures gases might develop, forming ethylene and alkenes of higher molecular weight, traces of formaldehyde and acrylaldehyde, traces of acids (Formic acid, acetic acid)
- Provide appropriate ventilation for such processing conditions
- Take precautionary measures against explosion risks, as all types of polymers may develop dust during transporting or grinding of granules
- Do not allow the formation of dust
- Spilled material may present a slipping hazard

Storage

Requirements to be met by storerooms and containers:

- Take precautionary measures to prevent the formation of static electricity
- Do not smoke
- Ground equipment electrically
- Open flames prohibited
- Information about storage in one common storage facility: Not required

Further information about storage conditions:

- Protect from heat and direct sunlight.
- Store under dry conditions.
- Storage containers should be stacked at a maximum of two high.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Protective Gloves: Not required
- Eye Protection: Not required
- Respiration Protection: Not required
- Ventilation: Not required
- Other Protective Equipment: Not required

Do not eat, drink or smoke while working.

9. PHYSICAL AND CHEMICAL PROPERTIES

Not available, because material typically only exists within a closed recycling process

10. STABILITY AND REACTIVITY

Conditions to Avoid:

- Heat, humidity, sparks and open flame
- See above 7. Handling and Storage

Thermal decomposition / conditions to be avoided:

- The product is stable when handled and stored under normal conditions.
- Decomposes over 180 °C.
- Dangerous reactions No dangerous reactions known
- Dangerous products of decomposition: No hazardous decomposition products known at room temperature.

11. TOXICOLOGICAL INFORMATION

MATERIAL SAFETY DATA SHEET (MSDS) ACM0

Acute toxicity

Primary irritant effect:

- on the skin: No irritant effect.
- on the eye: No irritant effect.
- Sensitization: No sensitizing effect known.

Additional toxicological information

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12. ECOLOGICAL INFORMATION

- Based on analysis of the finished product, the material is not toxic to fish (according to DIN 38 412-L31) and algae (*Daphnia magna*, according to DIN 38 412-L30) and does not inhibit cell proliferation (according to DIN 38 412-L33).
- The product is not biodegradable

13. DISPOSAL CONSIDERATIONS

- Reuse or recycle if possible.
- Disposal through controlled incineration or authorised waste dump.
- Disposal must be done according to official regulations.

14. TRANSPORT INFORMATION

- According to national and international guidelines, which regulate the road-, rail-, air- and sea-transport, this product is classified as not dangerous.
- See above 7. Handling and Storage

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

The information supplied has been based upon the current level of information available, for the purpose of specifying the requirements regarding environment, health and safety in conjunction with the product. They are not to be interpreted as a warranty for specific product characteristics. RECOVER Systems takes no responsibility for inappropriate use, processing and handling by purchasers and users of the product.