1. Identification Of The Substance / Mixture And Of The Company / Undertaking

1.1. product identifier: polystyrene
Name of the product: tabriz standard high impact polystyrene grades.
CAS NO.: 9003-55-8
1.2.manufacture'saddress:Iran-E.Azarbayjan-AzarshahrRoad-TPC-P.O.POX:51745-354

2. Hazards Identification

2.1. adverse human health effects
inhalation: fine dust may cause irritation of respiratory system and mucous.
if heated to more than 200°c, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath.
skin contact: in contact with hot material, may cause severe thermal burns.
eye contact: fine dust may cause irritation to ocular mucous.
ingestion: polyolefins are biologically inert.
2.1. adverse human health effects
inhalation: fine dust may cause irritation of respiratory system and mucous.
adverse environmental effects because of its structure, the product should not be dangerous for aquatic life.
non biodegradable.
adverse physicochemical effects combustible if exposed to flames flowing product can create electrical charge, resulting sparks may ignite dust or cause an explosion in some concentration ranges.
2.2. other hazards: no information available

3. Composition / Information On Ingredients

substances (chemical name):high impact polystyrene
benzene,ethenyl-polymer with 1,3 butadiene
chemical formula: (c8h8)x-(c4h6)y
CAS NO.: 9003-55-8

4. First-Aid Measures

4.1. description of first aid measures
route of exposure
inhalation: in case of severe exposure to spray, fumes or vapors, move the affected person into fresh air.
if necessary, give oxygen. if breathing has stopped: administer artificial respiration.
in case of heavy or persistent disturbances, call a doctor or seek medical advice.
skin contact: exposure to splashing of hot product:
treat the affected part with cold water (by spraying or immersion).

TABRIZ PETROCHEMICAL COMPANY

no attempt should be made to detach molten product adhering to the skin or to remove clothing attached with molten material, the injured body part would risk being pulled out; usually the layer detaches itself after a few days.
in case of severe burns, seek hospital treatment.
eye contact: in case of irritation caused by fine dust: wash with copious volumes of water, until the irritation disappears.
exposure to splashing of hot product:
treat the eyes with cold water.
get medical advice (ophthalmologist)
ingestion: ingestion during handling is not likely.
remove material from mouth.do not induce vomiting.
4.2. most important symptoms and effects, both acute and delayed
refer to § 11 for more details on effects.
4.3. indication of any immediate medical attention and special treatment needed: no information available.

5. Fire - Fighting Measures
fire-class regulation: a: solid material fires, principally of organic nature, that burn with incandescence technical measures: stop the fire spreading.
call the fire brigade immediately.
evacuate non-essential personnel protective clothing, goggles and self-contained breathing equipment should be made available for firemen.
5.1. extinguishing media
suitable for minor fires : carbon dioxide (CO2) or powder for more extensive fires : foam.
water spray (mist) to cool the surfaces exposed to the fire.
not to be used: do not use water jets (stick jets) for extinguishing fire since they could help to spread the flames.
5.2. special hazards arising from the substance: complete combustion, with an excess of oxygen forms: carbon dioxide (CO2) and water vapour.
partial combustion, forms also: carbon monoxide (CO), soot and cracked products: aldehydes, ketones , styrene , toluene , alcohol.
5.3. advice for firefighters: wear suitable breathing equipment, in case of risk of exposure to vapour or fumes.

6. Accidental Release Measures
6.1. personal precautions, protective equipment and emergency procedures for non-emergency personnel: wear a suitable antidust respirator where exposure is likely, protective clothing must be worn including gloves,goggles/spectacles for emergency responders:wear suitable breathing equipment, in case of risk of exposure to vapour or fumes.
6.2. environmental precautions

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do not dispose off this product into the environment
6.3. methods and material for containment and cleaning up on soil: granules spilled on the floor can cause a risk of slipping of smooth surfaces.
recover the spilled product by sweeping or suction; put it in containers to facilitate its disposal.
dispose safely in accordance with local or national regulations.
on water: prevent the spilled material from spreading.
if the material has been discharged into a stream or a sewerage system, inform the authorities refer to a specialist for waste disposal in a safe manner in accordance with local or national regulations.
6.4. refer to points 8 and 13

7. Handling And Storage
important: refer to any national measures that may be relevant.
7.1. precautions for safe handling
technical measures: all pneumatic transport equipment must be electrically earthed. avoid dust accumulation by use of filters in the pneumatic transport equipment. fire and explosion prevention: electrostatic charges may be generated when emptying sacks. it is recommended that sacks are emptied away from explosive atmospheres. explosive atmospheres may result from the presence of flammable gas or from the evaporation of flammable liquids, such as some solvents such explosive atmospheres are likely to occur, for example, above mixers in which the product is to be added as examples, the following procedures for emptying sacks are recommended:
fill the mixers using a 'rotating valve' or other system with suitable valves.
fill mixers indirectly through an earthed metallic hopper or simply using first an earthed metallic container away from the explosive atmosphere and then emptying it into the mixer.
7.2. conditions for safe storage, including any incompatibilities
storage conditions: store at ambient temperature and at atmospheric pressure in original packaging (plastic or cardboard boxes) or in silo made of appropriate material (aluminium, stainless steel, ...).
do not store near highly flammable materials. keep away from light. store away from heating source. avoid static electricity build up with connection to earth. store in dry, well-ventilated area.
store at ambient temperature, keep dry, away from sources of ignition.
storage of pallets: pallets may be stacked on flooring in sound condition.
however, when the pictorial warning as shown on the top of the safety data sheet is affixed to the pallet, the pallet must never be placed either on top of or below another pallet.
n.b. :here the term pallet includes both the pallet and its load.

TABRIZ PETROCHEMICAL COMPANY

when pallets are stored in racks, it should be checked whether the pallet is fit for stacking in the concerned racks.
incompatible materials: avoid contact with strong oxidizing materials.
suitable materials: polyethylene,paper bags,stainless steel.

8.Exposure Control/ Personal Protection
respiratory protection: in case of risk of overexposure to dust, vapour or fumes (during product processing), it is recommended that a local exhaust system is placed above the conversion equipment (a fume hood) and the working area must be properly ventilated.
wear a suitable anti-dust respirator.
recommended filter type : p1
hands protection: industrial gloves
skin and body protection: where exposure is likely, protective clothing must be worn including gloves
eye protection: goggles/spectacles other personal protection: safety non-slip shoes in areas where spills or leaks can occur.
industrial health measures
general use: local exhaust ventilation may be needed when working in a closed area use working clothing.
do not store near food products.
when using, do not eat, drink or smoke.
environmental exposure controls: handle in accordance with good industrial hygiene and safety procedures.
respirable dust=5mg/m3/TLV(TWA)=15mg/m3(total dust) from OSHA

9. Physical And Chemical Properties
9.1. information on basic physical and chemical properties
appearance
physical state at 20°c :solid (pellets)
colour :milky - white
odour: faint
change in physical state at 1013 hpa
softening point (°c): vicat (ISO 306-a): 87 - 102 °c
vicat (ISO 306-b): 76 - 94 °c
flash point (ASTM D 1929)(°c): no information available
thermal decomposition (°c): <= 250
auto-ignition temperature (°c): 490 ca.
explosion limits (kg/m³) :
lower:0,015 (for polymer dust < 63 µm)
vapour pressure at 20°c: (hpa) -
density, mass at 20°c (kg/m³): 1030-1060 ca.

TABRIZ PETROCHEMICAL COMPANY

bulk density,mass at 20°c(kg/m³): 600 ca.
solubility in water at 20°c (mg/l): insoluble
soluble: in organic solvents
PH value (concentrated product):not applicable
viscosity (mm²/s): not applicable
9.2. other information: no information available

10. Stability And Reactivity
10.1. reactivity: combustible if exposed to flames.
10.2. chemical stability: stable under normal operating conditions of storage, handling and use
10.3. possibility of hazardous reactions:
dust may form an explosive mixture with air, ignited by sparks or sources of ignition.
10.4. conditions to avoid: avoid proximity or contact with flames or sparks.
avoid overheating the product.
do not heat to temperatures exceeding 250 °c.keep away from light.
10.5. incompatible materials: avoid contact with strong oxidizing materials
10.6. hazardous decomposition products:
complete combustion, with an excess of oxygen forms: carbon dioxide
(CO2) and water vapour.
partial combustion, forms also: carbon monoxide (CO), soot and cracked products: aldehydes, ketones ...
advice to prevent explosion: all pneumatic transport equipment must be electrically earthed.avoid dust accumulation by use of filters in the pneumatic transport equipment.
thoroughly ventilate the working place.
flowing product can create electrical charge, resulting sparks may ignite dust or cause an explosion in some concentration ranges.
in case of pneumatic alimentation, feed the extruders by aspiration, use preferably nitrogen as carrier gas.

11. Toxicological Information
information on toxicological effects
acute toxicity
ingestion: because of its composition, the product should be considered as practically not harmful
local effect
inhalation: dust may cause irritation of respiratory system.
if heated to more than 200°c, the product may form vapours or fumes which may cause irritation of respiratory tract and cause coughing and sensation of shortness of breath.
skin contact: because of its composition, the product should be considered practically

TABRIZ PETROCHEMICAL COMPANY

as not irritating thermal decomposition products are produced at elevated temperatures and these may be irritating in contact with hot material, may cause severe thermal burns
eye contact: because of its composition, the product should be considered practically as not irritating.
fine dust may cause irritation to ocular mucous. splashing of molten droplets causes ocular tissue burns.
thermal decomposition products are produced at elevated temperatures and these may be irritating.
specific effects: no particular preoccupation for man

12. Ecological Information

information on ecological effects: avoid losses to the environment whenever possible.
12.1. toxicity: because of its low solubility, the product should not be dangerous for aquatic life.
12.2. persistence and degradability
persistent in the environment biodegradation: this substance is slowly biodegradable
BOD 5 (go2/g): below the detection limit.
soil and sediments: product is expected to undergo degradation in the presence of sunlight
12.3. bioaccumulative potential: potential bioaccumulation of the product in environment is very low
12.4. mobility
water / air: there is a slow loss by evaporation
volatile organic compound (VOC) content of this product is < at 0.5 % weight
soil and sediments: because of its physico-chemical properties, the product has a low soil mobility
water: the product has a density > 1000 kg/m³, it sinks in water. because of its low solubility, the product should not be dangerous for aquatic life.

13. Disposal Considerations

waste treatment methods: according to local regulations.
authorized disposal as refuse for reprocessing.
do not dispose off by means of sinks, drains or into the immediate environment may be used as fuel in suitably designed installations.
incinerate with household refuse in a municipal solid waste incinerator plan.

14. Transport Information

Road (ADR) / Rail (RID): Not restricted for transport.
UN Number: not applicable
Inland waterways (ADN): Not restricted for transport.
Marine (IMO): Not restricted for transport.
Air transport (ICAO / IATA): Not restricted for transport.

TABRIZ PETROCHEMICAL COMPANY

15. Regulatory information

The substance is not classified for human health or for the environment, and is not PBT or vPvB so that no exposure assessment or risk characterisation is required. For tasks where the intervention of workers is required, the substance must be handled in accordance with good industrial hygiene and safety procedures.

16. Other Information

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