COMPILE REPORT OF MSDS

No: SZ161600329A **Report Date:** 2018/03/8

Aplicant: : GuangZhou Ning E-Plastics Company

Address: : No.115 YangLing Road ,GuangZhou China

The following sample was submitted and identified by/on behalf of the applicant as:

Product Name : PTFE

Receiving Date : Mar.8.2018

Compiling Period : Mar.8.2018—Mar.8.2019

Compile Requested : MSDS report of products

Compile Results : Please refer to appurtenance page 1-9

Signed for and on behalf of UTS

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MSDS (Material Safety Data Sheet)

1 Identification of the substance / Preparation and of the company

PRODUCT NAME	: PTFE
Commom Type	: PTFE
Trademark	: /
Product Type	:5 mm
Export to	: Australia
Manufacturer/Supplier	: GuangZhou Ning E-Plastics Company
ADDRESS	: No.115 YangLing Road ,GuangZhou China
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2 Composition / Information on ingredients

Ingredient	CAS No.	Weight in Percent (%)	Notes
Teflon	9002-84-0	100%	---

3 HAZARDS IDENTIFICATION

Hazards

Flammability Low=1
Toxicity Min/Nil=0
Body Contact Moderate=2
Reactive Low=1
Chronic Moderate=2

EMERGENCY OVERVIEW

HAZARD

Not hazardous

4 First aid measures

SWALLOWED

• Immediately give a glass of water.

• First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

» If this product comes in contact with eyes:

• Wash out immediately with water.

• If irritation continues, seek medical attention.

• Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

» In case of burns:

• Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth.

• DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury.

• DO NOT break blister or remove solidified material.

• Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain.

• For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth.
• DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances.
• Water may be given in small quantities if the person is conscious.
• Alcohol is not to be given under any circumstances.
• Reassure.
• Treat for shock by keeping the person warm and in a lying position.
• Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.

INHALED

• If dust is inhaled, remove from contaminated area.
• Encourage patient to blow nose to ensure clear breathing passages.
• Ask patient to rinse mouth with water but to not drink water.
• Seek immediate medical attention.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

• Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.
• Foam.
• Dry chemical powder.
• BCF (where regulations permit).
• Carbon dioxide.
• Water spray or fog - Large fires only.

FIRE FIGHTING

• Alert Fire Brigade and tell them location and nature of hazard.
• Wear breathing apparatus plus protective gloves.
• Prevent, by any means available, spillage from entering drains or water courses.
• Use water delivered as a fine spray to control fire and cool adjacent area.
• DO NOT approach containers suspected to be hot.
• Cool fire exposed containers with water spray from a protected location.
• If safe to do so, remove containers from path of fire.
• Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

• Combustible solid which burns but propagates flame with difficulty.
• Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited.; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
• A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.
• Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.
• Dry dust can be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts

and during transport.
• Build-up of electrostatic charge may be prevented by bonding and grounding.
• Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
• All movable parts coming in contact with this material should have a speed of less than 1-me
Combustion products include: carbon monoxide (CO), carbon dioxide (CO2), hydrogen fluoride, other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
CARE: Contamination of heated / molten liquid with water may cause violent steam explosion, with scattering of hot contents.

FIRE INCOMPATIBILITY

• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

6 Accidental release measures

EMERGENCY PROCEDURES

MINOR SPILLS

• Clean up all spills immediately.
• Avoid breathing dust and contact with skin and eyes.
• Wear protective clothing, gloves, safety glasses and dust respirator.
• Use dry clean up procedures and avoid generating dust.
• Sweep up, shovel up or
• Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
• Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

» Moderate hazard.
• CAUTION: Advise personnel in area.
• Alert Emergency Services and tell them location and nature of hazard.
• Control personal contact by wearing protective clothing.
• Prevent, by any means available, spillage from entering drains or water courses.
• Recover product wherever possible.
• IF DRY: Use dry clean up procedures and avoid generating dust. Collect residues and place in sealed plastic bags or other containers for disposal. IF WET: Vacuum/shovel up and place in labelled containers for disposal.
• ALWAYS: Wash area down with large amounts of water and prevent runoff into drains.
• If contamination of drains or waterways occurs, advise Emergency Services.

7 HANDLING AND STORAGE

PROCEDURE FOR HANDLING

• The greatest potential for injury caused by molten materials occurs during purging of machinery (moulders, extruders etc.)
• It is essential that workers in the immediate area of the machinery wear eye and skin protection (such as full face, safety glasses, heat resistant gloves, overalls and safety boots) as protection from thermal burns.
• Fumes or vapours emitted from hot melted materials, during converting operations, may condense on overhead metal surfaces or exhaust ducts. The condensate may contain substances which are irritating or toxic. Avoid contact of that material with the skin. Wear rubber or other impermeable gloves when cleaning contaminated areas.
• Avoid process temperatures above decomposition temperatures. Overheating may occur at excessively

high cylinder heats, overworking of the melt by wrong screw configuration, or by long dwell time in the machine.
Under such conditions, thermal emissions and heat-degradation products might, without proper ventilation, reach hazardous concentrations in the converting area. Hot purgings should be collected only as thin flat strands to allow for rapid cooling. Hot purgings should be cooled by quenching in water in a well-ventilated area.
• Avoid all personal contact, including inhalation.
• Wear protective clothing when risk of exposure occurs.
• Use in a well-ventilated area.
• Prevent concentration in hollows and sumps.
• DO NOT enter confined spaces until atmosphere has been checked.
• DO NOT allow material to contact humans, exposed food or food utensils.
• Avoid contact with incompatible materials.
• When handling, DO NOT eat, drink or smoke.
• Keep containers securely sealed when not in use.
• Avoid physical damage to containers.
• Always wash hands with soap and water after handling.
• Work clothes should be laundered separately. Launder contaminated clothing before re-use.
• Use good occupational work practice.
• Observe manufacturer's storing and handling recommendations.
• Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

• Polyethylene or polypropylene container.
• Check all containers are clearly labelled and free from leaks.

STORAGE INCOMPATIBILITY

» For PTFE-containing materials:
Avoid storage with strong oxidising agents, tetrafluoroethylene, hexafluoroethylene, perfluoroisobutylene, carbonyl fluoride and hydrogen fluoride.
• Avoid reaction with oxidising agents.
Avoid compounds containing fluorine.

STORAGE REQUIREMENTS

• Store in original containers.
• Keep containers securely sealed.
• Store in a cool, dry area protected from environmental extremes.
• Store away from incompatible materials and foodstuff containers.
• Protect containers against physical damage and check regularly for leaks.
• Observe manufacturer's storing and handling recommendations
For major quantities:
• Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams}.
• Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

+	+	+	+	X	+

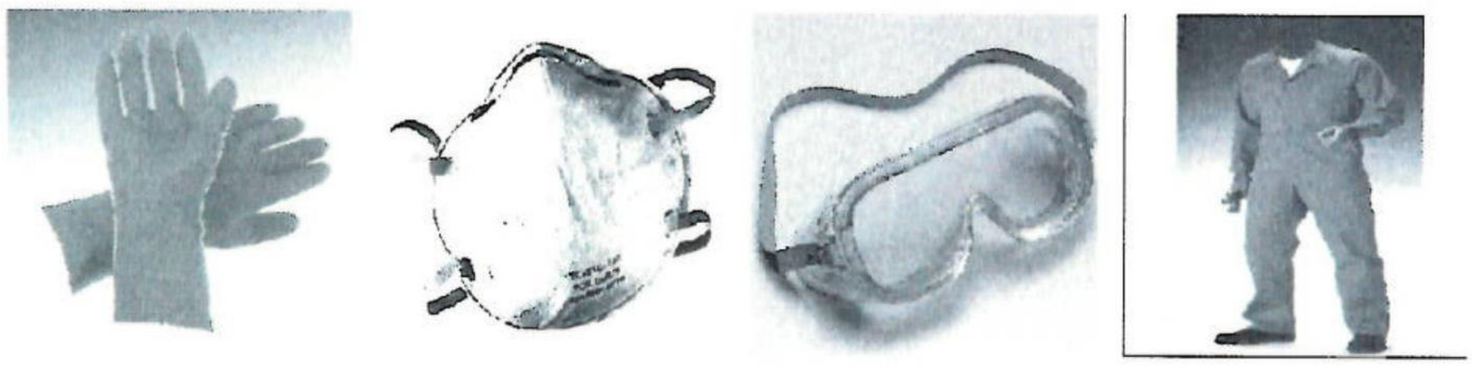
+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

8 Exposure controls / personal protection

PERSONAL PROTECTION



EYE

• Safety glasses with side shields

• Chemical goggles.

• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

» Suitability and durability of glove type is dependent on usage. Factors such as:

• frequency and duration of contact,

• chemical resistance of glove material,

• glove thickness and

• dexterity, are important in the selection of gloves.

• When handling hot materials wear heat resistant, elbow length gloves.

• Rubber gloves are not recommended when handling hot objects, materials.

• Protective gloves eg. Leather gloves or gloves with Leather facing.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

• polychloroprene

• nitrile rubber

• butyl rubber

• fluorocaoutchouc

• polyvinyl chloride

Gloves should be examined for wear and/ or degradation constantly.

Wear neoprene gloves when handling refuse from fire where PTFE was present.

OTHER

• When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering

boots.

• Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure.

• CAUTION: Vapours may be irritating.

• Overalls.

• P.V.C. apron.

• Barrier cream.

• Skin cleansing cream.

• Eye wash unit.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White plastic

PHYSICAL PROPERTIES

White, tasteless

Not mixed with water.

Molecular Weight: Not applicable

Boiling Range (°C): Not available

Melting Range (°C): Not available

Specific Gravity (water=1): Not available

pH (as supplied): Not available

pH (1% solution): Not available

Vapour Pressure (kPa): Not available

Volatile Component (%vol): Not available

Evaporation Rate: Not available

Relative Vapour Density (air=1): Not available

Flash Point (°C): Not available

Lower Explosive Limit (%): Not available

Upper Explosive Limit (%): Not available

Autoignition Temp (°C): Not available

Decomposition Temp (°C): Not available

10 STABILITY AND REACTIVITY

CONDITIONS CONTRIBUTING TO INSTABILITY

• Presence of incompatible materials.

• Product is considered stable.

• Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

11 TOXICOLOGICAL INFORMATION

SWALLOWED

» Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where preexisting organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

» High molecular weight material; on single acute exposure would be expected to pass through gastrointestinal tract with little change / absorption. Occasionally accumulation of the solid material within

the alimentary tract may result in formation of a bezoar (concretion), producing discomfort.

EYE

» Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

SKIN

» The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
» Molten material is capable of causing burns.
» Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

» The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
» Not normally a hazard due to non-volatile nature of product.
» Processing for an overly long time or processing at overly high temperatures may cause generation and release of highly irritating vapours, which irritate eyes, nose, throat, causing red itching eyes, coughing, sore throat.
» Fumes from burning PTFE-containing materials are irritating to the upper respiratory tract and may be harmful if exposure is prolonged. When heated for a long time a very small amount of hydrogen fluoride, carbonyl fluoride and perfluoroisobutylene is generated. The higher the temperature the greater is the decomposition rate.
Symptoms of exposure to hydrogen fluoride and carbonyl fluoride include burning sensation, cough, dizziness, headache, labored breathing, nausea, shortness of breathe, sore throat and vomiting. Symptoms may be delayed.
These substances are corrosive to the eyes, skin and respiratory tract. Inhalation may produce lung oedema. Prolonged exposures may produce hypocalcaemia High exposures may be fatal. Medical observation is indicated in the event of such exposures. Symptoms of exposure to perfluoroisobutylene include cough, shortness of breathe, sore throat. Symptoms may be delayed. Symptoms of lung oedema often do not manifest until a few hours have passed and may be aggravated by physical effort. Rest and medical observation are essential. Immediate administration of an appropriate spray, or by the doctor authorised by him/ her, should be considered.
Overheated or burnt PTFE evolves highly irritating and corrosive hydrogen fluoride gas with small amounts of highly toxic carbonyl fluoride. Polymer decomposition starts at 400 deg. C. with rapid degradation at 540 deg. C.. Decomposition products are complex.
Solutions of hydrogen fluoride gas in mucous fluids form highly corrosive hydrofluoric acid so that inhalation of decomposition products can cause symptoms of choking, coughing and severe eye, nose and throat irritation. After a symptomless period of 1-2 days, exposed individuals may experience a set of symptoms described as "polymer fume fever"; this is a temporary flu-like illness with fever, chills and, sometimes, a cough and difficult breathing which lasts for approximately 24 hours.
Inhalation or skin contact with carbonyl fluoride vapour may cause irritation with discomfort and rash. In addition, carbonyl fluoride vapours may produce eye corrosion with corneal and conjunctival ulceration,

nose and throat irritation, or temporary irritation of the lungs producing cough discomfort, difficult breathing and shortness of breath.
Individuals with pre-existing lung diseases may have increased susceptibility to the toxic effects of thermal decomposition products.

CHRONIC HEALTH EFFECTS

» This material contains a substantial amount of polymer considered to be of low concern. These are classified under having MWs of between 1000 to 10000 with less than 25% of molecules with MWs under 1000 and less than 10% under 500; or having a molecular weight average of over 10000. Functional groups contained on the polymer are then classified into risk categories. Being classified as a polymer of "low concern" does not mean that there are no hazards associated with the chemical.
There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.
Perfluorinated compounds are potent peroxisome proliferators.
Substance accumulation, in the human body, may occur and may cause some concern following repeated or longterm occupational exposure.

TOXICITY AND IRRITATION

» unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

12 Ecological Information

» DO NOT discharge into sewer or waterways.
» Substances which are completely perfluorinated (that is, fluoride groups completely substitute for hydrogen groups) or contain substantial proportions of perfluorinated region, resist biodegradation in most natural environments.

13 DISPOSAL CONSIDERATIONS

• Recycle wherever possible.
• Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
• Dispose of by: Burial in a licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material)
• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

14 TRANSPORTATION INFORMATION

HAZCHEM: None
NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IATA, IMDG

15 REGULATORY INFORMATION

None data of this material

16 OTHER INFORMATION

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.