Material: Puggle pump sets/bags
Approved/Revised: Feb. 24th, 2023

AMSINO.

MATERIAL SAFETY DATA SHEET

May be used to comply with OSHA's Hazard communication Standard 29CFR 1910.1200

Product:P90B5, P90B12,P90S,PE90BS,PE90B5T,PE90B12,PE90B12T,PE90S

Material composition:

Component	Material
Inlet Cap/ Inlet Port/Bag/Tube	PVC
Adapter	ABS/PVC
Protective cap/ Rotated cap	PE
Spike/ Female ENFit connector/3 Way assembly	ABS
Male cap for Enfit connector	PP
Silicone tube	Silicone

Manufacturer: **Amsino International**

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name:

This safety data sheet pertains to the following products:

1.2 Relevant identified uses of the substance or mixture and uses advised against

General use: Polymer
Basic material for chemical industry processing

1.3 Details of the supplier of the safety data sheet

Company name: Styrolution

1.4 Emergency telephone number

Telephone: +44 (0) 1235 239 670

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

This mixture is classified as not hazardous.

Classification according to Directive 67/548/EEC or 1999/45/EC

This preparation is classified as not hazardous.

2.2 Label elements

Labelling (CLP)

Hazard statements: not applicable

Safety precautions: not applicable

Labelling (67/548/EEC or 1999/45/EC)

R phrase(s): not applicable

S phrase(s): not applicable

2.3 Other hazards

Floors may become slippery.
The melted product can cause severe burns.
Swallowing may cause gastrointestinal irritation and pain of guts.

SECTION 3: Composition / information on ingredients

3.1 Substances: not applicable

3.2 Mixtures

Chemical characterization: Polymer
CAS No. 9010-94-0 Butadiene-Methyl methacrylate-styrene-acrylonitrile copolymer
2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene, ethenylbenzene and 2-propenenitrile

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation: Provide fresh air. If the symptoms persist, seek medical attention.

In case of skin contact: The melted product can cause severe burns.
Do not remove the product from the skin without medical assistance.
After contact with molten product, cool skin area rapidly with cold water. Consult physician.

After eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Consult an eye specialist in the event of irritation.

After swallowing: Rinse mouth and drink large quantities of water.
In the event of discomfort seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

Can cause skin, eye and respiratory tract irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.
(Decontamination, vital functions)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:

water fog, foam, extinguishing powder, carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

High power water jet

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: smoke, styrene, Methyl methacrylate, Hydrogen cyanide, carbon monoxide and carbon dioxide (CO2).
In case of dust (Fine dust): danger of dust explosion

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: -

Cool endangered containers with water jetspray.
Do not allow fire water to penetrate into surface or ground water.
Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.
Wear personal protection equipment. Do not breathe dust.

6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

6.3 Methods and material for containment and cleaning up

Avoid generation of dust. Remove all sources of ignition.
Collect dry and place in appropriate containers for disposal. Subsequent cleaning. (Water)

Additional information: Special danger of slipping by leaking/spilling product.

6.4 Reference to other sections

Refer additionally to chapter 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not breathe dust.
In the case of the formation of dust: Withdraw by suction.
Molten material: Avoid contact with the substance.

Precautions against fire and explosion:

Take precautionary measures against static discharge. Keep away from open flames, hot surfaces and sources of ignition. Use grounding equipment. Use explosion-proof equipment and non-sparking tools/utensils.
In case of dust (Fine dust): danger of dust explosion

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Store in a well-ventilated place. Keep container tightly closed.
Protect against heat /sun rays.
Protect from moisture contamination.

Further details: Special danger of slipping by leaking/spilling product.

Storage class: 11 = Combustible solids

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
	Terlux®	Great Britain: WEL-TWA	10 mg/m³ Dust limit value inhalable fraction
		Great Britain: WEL-TWA	4 mg/m³ Dust limit value respirable fraction
		Ireland: 8 hours	10 mg/m³ Dust limit value inhalable fraction
		Ireland: 8 hours	4 mg/m³ Dust limit value respirable fraction
80-62-6	Methyl methacrylate	Europe: IOELV: STEL	100 ppm
		Europe: IOELV: TWA	50 ppm
		Great Britain: WEL-STEL	416 mg/m³; 100 ppm
		Great Britain: WEL-TWA	208 mg/m³; 50 ppm
		Ireland: 15 minutes	100 ppm
		Ireland: 8 hours	50 ppm
106-99-0	1,3-Butadiene	Great Britain: WEL-TWA	22 mg/m³; 10 ppm (Carc)
		Ireland: 8 hours	2,2 mg/m³; 1 ppm C1, Mut2
107-13-1	Acrylonitrile	Great Britain: WEL-TWA	4,4 mg/m³; 2 ppm
		Ireland: 8 hours	4,5 mg/m³; 2 ppm (May be absorbed through the skin.)
100-42-5	Styrene	Great Britain: WEL-STEL	1.080 mg/m³; 250 ppm
		Great Britain: WEL-TWA	430 mg/m³; 100 ppm
		Ireland: 15 minutes	170 mg/m³; 40 ppm
		Ireland: 8 hours	85 mg/m³; 20 ppm

8.2 Exposure controls

Make sure that the processing machines are well equipped with suction and ventilation systems.

Occupational exposure controls

Respiratory protection: Respiratory protection must be worn whenever the WEL levels have been exceeded.
Use filter type A-P2 according to EN 14387.

Hand protection: Protective gloves according to EN 374.
Glove material: Nitrile rubber - Layer thickness: 0,11 mm.
Breakthrough time: >480 min.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

In case of melting: Protective gloves against heat according to EN 407.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing. boots or Wear protective shoes.

General protection and hygiene measures:

Molten material: Avoid contact with skin.
Do not breathe vapours. Keep away from sources of ignition.
Wash hands before breaks and after work.

In case of dust: Particular danger of slipping when spread on the ground.
Safety shower and eye wash station should be easily accessible to the work area.

Environmental exposure controls

Do not allow to penetrate into soil, waterbodies or drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Physical state: solid Colour: colourless
Odour:	weak characteristic
Odour threshold:	No data available
pH value:	No data available
Melting point/melting range:	> 100 °C (DIN EN ISO 306)
Boiling temperature/boiling range:	No data available
Flash point/flash point range:	> 400 °C
Vapourisation rate:	No data available
Flammability:	Not highly flammable.
Explosive properties:	Dust explosion risk at fine dust.
Explosion limits:	No data available No data available
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: approx. 1,08 g/cm³ (DIN 53479)
Water solubility:	insoluble
Partition coefficient n-octanol/water:	No data available
Autoflammability:	Not self-igniting
Thermal decomposition:	> 300 °C
Viscosity, dynamic:	No data available
Explosive properties:	No data available
Oxidizing characteristics:	Oxidising properties: not oxidising

9.2 Other information

Bulk density:	at 20 °C: 600 kg/m³ (DIN 53466)
Additional information:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

refer to 10.3

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Dust forms explosive mixtures with air.

10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.
Avoid dust formation.

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

In case of fire may be liberated: smoke, styrene, Methyl methacrylate, Hydrogen cyanide, carbon monoxide and carbon dioxide (CO2).

Thermal decomposition: > 300 °C

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Toxicological effects: Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.
Dusts: Irritating to eyes, respiratory system and skin.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

Other information:

1,3-Butadiene:	May cause cancer. May cause genetic defects.
Acrylonitrile:	Toxic by inhalation, in contact with skin and if swallowed. May cause cancer. Suspected of damaging the unborn child. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage.
Styrene:	Harmful if inhaled. Causes damage to organs through prolonged or repeated exposure. lung damages May be fatal if swallowed and enters airways. Causes serious eye irritation. Causes skin irritation.

Symptoms

Can cause skin, eye and respiratory tract irritation.
The melted product can cause severe burns.

In case of ingestion:
Swallowing may cause gastrointestinal irritation and pain of guts.

SECTION 12: Ecological information

12.1 Toxicity

Water Hazard Class: nwg = non-hazardous to water (WGK catalog number 766)

12.2. Persistence and degradability

Further details: Biodegradation: Product is not readily biodegradable.

Effects in sewage plants: In sewage treatment plants it may be separated mechanically.

12.3 Bioaccumulative potential

To avoid bioaccumulation plastics should not be disposed in the sea or in other water environments.

Partition coefficient n-octanol/water:

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

General information: Do not allow to penetrate into soil, waterbodies or drains.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste key number: 07 02 99 = wastes from the MFSU of plastics, synthetic rubber and man-made fibres
MFSU = manufacture, formulation, supply and use

Recommendation: With due observance of the regulations laid down by the local authorities, this must be brought to a suitable incineration plant/waste disposal site.

Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation.
Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

not applicable

14.2 UN proper shipping name

ADR/RID, IMDG, IATA: Not restricted

14.3 Transport hazard class(es)

not applicable

14.4 Packing group

not applicable

14.5 Environmental hazards

Marine pollutant: No

14.6 Special precautions for user

No dangerous good in sense of these transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations - Great Britain

Hazchem-Code: -

National regulations - USA

Hazard rating systems:

NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 1 (Slight)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 1 (Slight)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment is not required.

SECTION 16: Other information

Further information

Reason of change: Changes in section 1: Changes of product list
Date of first version: 27.02.2013

Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

化学品安全技术说明书

修订日期：2016.11.23
Revised date: 2016.11.23

MSDS(Material Safety Data Sheet) for GB/T 16483-2008

第 **1** 部分　化学品及企业标识

Part 1　CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

产品信息 **HEMICAL PRODUCT**

产品型号：　SH-2265AB
Trade Name：　SH-2265AB

产品商品名：　固体硅胶
Trade Name：Solid silicone rubber

应急电话 Emergency Tel：　0532-83889090

第 **2** 部分　危险性概述

Part 2 HAZARD IDENTIFICATION

危险性类别：　无危害性
Risk categories:　No harm
标签要素：　无

Lable element:　No 危害说明：　无危害性
Hazard description：No harm

防范说明：Precautionary statements

避免接触皮肤和眼睛 Avoid contact with skin and eyes 如果接触眼睛，用水小心的反复冲洗，戴隐形眼镜者如方便，先取下眼镜再冲洗眼睛 If eye contact, flush eyes with water. Please remove contact lenses before flush, if any. 如果接触皮肤，用肥皂和水温和冲洗 If skin contact, wash in mild soap and water.

其它危险：　未知
Other hazards:　Unknown

第 **3** 部分　成分/组成信息

Part 3 COMPOSITION/INFORMATION ON INGREDIENTS

物质主要成分：Component:

序号 Item No.	化学名称 Form	CAS 号 CAS No.	浓度(%) Concentration (%)
1	聚硅氧烷 Polysiloxane	69430-24-6	75-85
2	二氧化硅 Silicon Dioxide	7631-86-9	20-25
3	铂络合物 Platinum Complex	68478-92-2	0.01-0.3

第 **4** 部分　　急救措施

Part 4 FIRST AID MEASURES

若吸入：　　毋须急救

If inhaled: No need to first aid.

若皮肤接触： 毋须急救

If skin contact: No need to first aid.

若眼睛接触： 作为预防措施，用清水冲洗眼睛。取下隐形眼镜。保护未受伤害的眼睛。保持眼睛睁开用清水冲洗，如刺激持续，马上就医。

If eye contact: As a precaution, flush eyes with clear water. Please remove contact lenses. To protect uninjured eyes. Keep eyes open and flush with clear water. If irritation persists, get medical attention immediately.

若食入： 保持呼吸道畅通。禁止催吐。禁止饮用牛奶和酒精饮料。禁止对神志不清醒的患者通过口喂食任何东西。若症状持续，请立即将受害人送往医院救治。

If Ingestion: Keep comfortable for breathing. Do not induce vomiting. Do not drink milk and alcoholic beverage. Never give anything by mouth to an unconscious person. If symptoms persist, please rush the victims to hospital immediately.

注释： 对症医治

Note: symptomatic treatment

第 **5** 部分 消防措施

Part 5 FIRE-FIGHTING MEASURES

灭火方法：Fire-fighting methods:

合适的灭火剂： 大火时使用泡沫或水雾；小火时使用二氧化碳

Suitable extinguishant: LARGE FIRE, use foam or water spray. SMALL FIRE, use carbon dioxide.

不合适的灭火剂：不确定

N/A Extinguishant: Uncertainty

特别危险性： 无 Special risk: NO 灭火注意措施及防护措施：消防人员必要时需佩戴自给式空气呼吸器。单独收集被污染的灭火用水。不要排入 下水道。火灾残留物以及灭火用水必须按照当地规定予以处理。为了防火，罐子应分开储存于密闭容器中，使 用喷水冷却完全密闭的容器。

Fire fighting measures and protective measures: Fire fighters should wear Self-Contained Beathing Apparatus in necessity. Collecting separately contaminated extinguishing water. Don’t discharge into sewers. Fire residues and extinguishing water must be dealt with in accordance with local regulations. To fire protection, the cans should be stored separately into closed container, use water spray cooling the fully closed containers.

第 **6** 部分 泄露应急处理

Part 6 ACCIDENTAL RELEASE MEASURES

作业人员防护措施、防护装备和应急处置程序： 使用个人防护设备。确保通风良好。消除所有火源。将人员撤离到安全地带，谨防累积，避免眼睛接触，不可内服。

Worker protection measures、protective equipment and emergency procedures: Use of personal protective equipment. Keep good ventilation. Eliminate all sources of ignition. Evacuate people to safe areas., beware of the accumulation, avoid contact with eyes, not to be taken orally. 环境保护措施：防止泄漏物进入下水道。在保证安全的情况下防止进一步的泄漏和溢出。若产品污染对河流、 湖泊或下水道造成污染，需及时告知相关职能部门。

Environmental precautions: Prevent the leakage entry into sewer. Prevent further leakage and overflow in the case of security. If the product contamination caused by pollution of rivers, lakes or sewers, need to inform the relevant functional departments in time.

泄露化学品的收容、清除方法及所使用的处置材料： 收集泄漏物，使用适合的不易燃惰性吸收材料 (如沙子、泥土、硅藻土、蛭石等) 覆盖 和吸收，将泄漏物收集于合适的容器中按照当地规定予以处理。(参考第 13 部

分）

Chemicals leaked asylum、Methods for cleaning up and use of disposal materials: Collect the leakage, using suitable non-flammable inert absorbent material (eg sand, soil, diatomite, vermiculite, etc.) cover and absorb, the leak was collected to be dealt with in a suitable container in accordance with local regulations. (See Part 13)

第 **7** 部分　操作处置与储存

Part 7 HANDLING AND STORAGE

安全操作注意事项： 使用充分的通风排气设备，避免眼睛接触，不可内服，施行良好工业卫生措施，请于操作后进行清洗，尤其是在饮食或抽烟之前

Safety Handling Precautions: Use sufficient ventilation exhaust equipment, avoid contact with eyes, not to be taken orally. To implement good industrial hygiene measures. Wash thoroughly after handling, especially before eating or smoking.

储存提示：谨慎小心，远离氧化物料储存

Storage tips: Be careful, keep away from the oxide material.

不适合的包装材料： 未确定的

Not suitable for packaging materials: Undetermined

第 **8** 部分　接触控制和个体防护

Part 8 EXPOSURE CONTROL / PERSONAL PROTECTION

控制参数：Controls parameter

个体防护设备：Personal protective equipment:

呼吸系统防护： 不需要使用呼吸防护设备

Respiratory protection: Don't need to use respiratory protective equipment

手防护： 毋需特别防护

Hand protection: Don't need special protection

眼睛防护： 使用适当的防护，佩戴适宜的安全护目镜

Eye protection: Use appropriate protection, wear appropriate safety goggles

皮肤防护： 进餐前和下班时进行适当的清洗

Skin protection: Wash thoroughly before meals and after work.

个人卫生措施： 施行良好工业卫生措施，请于操作后进行清洗，尤其是在饮食或抽烟之前

Personal hygiene measures: To implement good industrial hygiene practices, please wash after handling, especially before eating or smoking.

备注： 当物品被加热到 150℃以上时，可能会释放微量的甲醛，要求有充分的通风排气设备

Remark: When the materials are heated to above 150 ℃, may release a bit of formaldehyde, it requires have sufficient ventilation and exhaust equipment.

第 **9** 部分　理化特性

Part 9 PHYSICAL AND CHEMICAL PROPERTIES

外观与性状：	乳白色胶状物	Appearance: milky white color jelly
气味：	轻微的气味	Odor: Slight smell
pH 值：	无相关资料	PH: no data
熔点：	无相关资料	Melting point: No data
密度：	1.05-1.12 g/cm3，20°C（方法：4 (20°C Biegeschwinger)）	
Density: 1.05-1.12 g/cm3，20°C（method：4 (20°C Biegeschwinger)）		
蒸汽压：	无相关资料	Vapor Pressure: No data
溶解性：	与水不混溶	Solubility: water-immiscible

闪点： >100℃闭杯测试法 Flash Point: >100℃ closed cup test:
燃点： 无相关资料 Kindling Point: No data
堆密度： 不适用 Bulk density: Not Applicable
爆炸性： 无相关资料 Explosive: No data
粘度（运动粘度）： 25℃；0.5-2000pa.s Viscosity(kinematic viscosity): 25℃；0.5-2000pa.s

第 **10** 部分 稳定性和反应活性

Part 10 STABILITY AND REACTIVITY

稳定性： 稳定的
Stability: Stable
危险反应： 不会产生危害的聚合反应
Hazardous polymerization: Hazardous polymerization does not occur.
禁配物： 可与强氧化剂发生反应
Materials to avoid: Can be react with strong oxidant
分解产物： 二氧化碳及微量的未完全燃烧的碳化物，二氧化硅，甲醛，氧化氮
Hazardous decomposition products: carbon dioxide and a bit of carbide of incomplete combustion, carbon dioxide, formaldehyde, nitrogen monoxide.

第 **11** 部分 毒理学信息

Part 11 TOXICOLOGICAL INFORMATION

暴露途径： 吸入，皮肤接触和意外吞食
Routes of exposure: inhalation, skin contact and accidentally swallowed.
过分接触的影响和症状： 正常使用下，无显著不良影响
The effects and symptom of excessive contact: under normal use, no significant adverse effects.
急性毒性 **Acute toxicity:**
眼睛： 直接接触可能引起短暂的发红及不舒服症状
Eyes: Direct contact may cause temporary redness and uncomfortable symptoms
皮肤： 单一时间暴露不会有重大影响
Skin: Exposure to a single time there will be no significant impact
食入： 正常使用时只有很低的摄入危害
Ingestion: In normal use, only have slightly hazardous
吸入： 单一时间暴露不会有重大影响
Inhalation: Exposure to a single time there will be no significant impact
慢性毒性 **Chronic toxicity**
皮肤： 无适合的资料
Skin: No data
食入： 反复或大量摄入可能导致身体内部损害
Ingestion: Repeated or large quantities of ingestion may cause internal damage
吸入： 无适合的资料
Inhalation: No data
其它健康危害信息： 无适合的资料
Other health hazard information: No data

第 **12** 部分 生态学信息

Part 12 ECOLOGICAL INFORMATION

生态毒性效应：**Ecotoxicity Effects**
急性影响： 对水生有机体无有害影响：

Acute effects: No harmful effects to aquatic organisms

慢性影响： 对水生有机体无有害影响

Chronic effects: No harmful effects to aquatic organisms

对废水处理厂的影响： 对细菌无有害影响，通过与污水淤泥粘合，可被去除 90%以上，本产品中的硅氧烷不是 BOD 的一部分

Effects of wastewater treatment plants: No harmful effects to germ, adhesion with sewage sludge, can be removed more than 90%, siloxane in the product is not part of the BOD.

持久性和降解性：persistence and Biodegradability

降解性： 硅氧烷在土壤中退化降解

Products of Biodegradability: Siloxane degradation in soil

生物蓄积性潜力： 无生物累积能力

Bioaccumulation: No ability

在土壤中流动性： 通过沉积或粘合至污水淤泥，将硅氧烷从水中分离出来

Mobility in Soil: Through sedimentation or adhesion to sewage sludge.

第 **13** 部分 废弃处置

Part 13 DISPOSAL CONSIDERATIONS

废弃处置方法：

产品： 废物不得排入下水道。化学品或已用容器不能污染池塘、水源或沟渠。 交给得到许可的废品处理公司

Product Disposal: Dispose of in accordance with local regulations.

受污染的包装：倒空容器，按未使用产品处理，清空后的容器不要重复使用，也不要焚 烧或对其使用割炬切割。

Packaging Disposal: Dispose of in accordance with local regulations

第 **14** 部分 运输信息

Part 14 TRANSPORT INFORMATION

公路和铁路运输 **Road and Rail Transport**	海运（**IMDG**）**Sea Transport**	空运（**ITTA**）**Air Transport**
不适用 N/A	不属 IMDG 编码 Not Regulated IMDG code	不属 ITTA 编码 Not Regulated ITTA code

第 **15** 部分 法规信息

Part 15 REGULATORY INFORMATION

适用法规**:** 工作场所安全使用化学品规定（**1996** 劳动部发 **423** 号文件）

Applicable Laws: Workplace safe use of chemicals (1996 department of labor issued 423 document)

化学品分类和危险公示公告通则（**GB 13690-2009**）

General Rule for Classification and Dangerous announcement of Chemicals [GB13690-2009].

第 **16** 部分 其他信息

Part 16 OTHER INFORMATION

制作者： 东莞市贝特利新材料有限公司

Producer: Dongguan City Betterly New Materials Co. Ltd.

本信息基于我们现有的知识水平。它不是产品特性的保证书。每位客户应于使用前审阅此产品预订使用方法的

建议并决定是否使用。

This MSDS is based on our existing knowledge level, it is not a guarantee of product characteristics. Users should make their own investigations to determine the suitability of the information for their particular purposes.

MSDS (MATERAL SAFETY DATA SHEET) Grade : HI - 121H ABS RESIN	File Number	MSDS- ABS HI-121H
	Issued Date	1998.10.1
	Revised Date	2006.12.4
	Revised Item	
	Page	1/4

1. Product and Company Identification

Chemical Product Name	Acrylonitrile Butadiene Styrene Co-polymer
Usage	Electronic Goods, Automotive Parts, Package, etc
Chemical Type	Thermoplastics

2. Compositon/Information on Ingredients

	CAS Number	Contents
ABS(Acrylonitrile Butadiene Styrene Co-polymer)	9003-3-56-9	97-100%
Typical Antioxidants		0-1%
Typical Lubricants		0-2%

3. Hazards Identification, Including Emergency Overview

Hazards Category	N/P
Route of Entry Indicators	Inhalation,Ingestion,Skin Absorption,Eye Contact
Health Hazards Acute & Chronic	N/P
Environment Indicators	N/P
Explosive Indicators	N/P
Carcenogenicity Indicators	N/P

4. First Aid Measures

Eye Contact	Immediately rinse eyes with copious amount of running water and seek medical advice
Skin Contact	Essentially nonirritating to skin but rinse with copious water
Ingestion	If vomiting occurs,lower the head to ease vomiting and seek

	or medical advice
Inhalation	In case of breathing, fumes released from heated material may cause respiratory irritation In case of inhaling dense smoke, immediately remove a person to fresh air. If necessary, apply artificial respiration and seek medical attention immediately

5. Fire Fighting Measures

Flash Point	Not Applicable
Flammability	1.5mm, 3.0mm HB(UL-94, File No.:E-203955)
Auto Ignition Point	Not Applicable
Extinguishing Media	Usually use water and use extinguishing media appropriate to surrounding conditions
Special Fire Fighting Procedure	Cool containers with water spray. In closed stores, provide fire fighter with self-contained breathing apparatus in positive pressure mode
Usual Fire and Explosion Hazards	Irritating gases and dense smoke

6. Accidental Release Measures

Cleaning Method	Sweep, use vaccum cleaner, or shovel into intact packaging for waste disposal or possible re-use
Waste Disposal Method	Reuse or transfer to an approved disposal area. Observe all federal, state, or local regulations upon disposition

7. Handling and Storage

Handling	Aviod formation of dust Keep bags always closed /Keep container lightly closed Avoid pellets /bags from getting wet
Storage	Keep bags/container in a well-ventilated place Avoid pellets /bags from getting wet

8. Exposure Controls & Personal Protection

Eye	Safety goggles
Hands	Protective gloves
Respirator	Chemical protect respirator (fumes released form heated material)
Others	If necessary, use protective equipment handling this product

9. Physical & Chemical Properties

Appearance	Pellet
Odor	Almost Odorless
PH	Neutral
Specific Gravity	1.05
Evaporation Rate	Not applicable at standard condition
Vapor Pressure	Not applicable at standard condition
Vapor Density	Not applicable at standard condition
Solubility in Water	Insoluble
Solubility in other Solvent	Soluble in THF, Acetone and other Analogous Solvents

10. Stability & Reactivity Data

Stability	Stable under normal condition
Storage conditions to avoid	Avoid fire and heating above 60℃
Incompatibility	None known
Hazardous decomposition products	CO,HCN,AN
Hazardous polymerization	Not occur

11. Toxicological Information

Irritating Property	In case of burning, Irritating gases and dense smoke released from material may cause eyes and nose irritation

12. Ecological Information

Ecological Toxicity	N/P
Biologic Decompose	N/P
Abiological Decompose	Can be decomposed under sunlight and oxygen condition

13. Disposal Considerations

Disposal Character	Not belong to the dangerous material
Disposal Method	Burned by a suitable incinerator

14. MSDS Transport Information

N/P

15. Regulatory Information

N/P

16. Other Information

Product should be handled, stored, and used in accordance with the generally accepted industrial hygiene practices and in conformity with all the applicable legal regulations. The information provided herein is based on the knowledge possessed at this present time from the view point of safety requirements. It should, therefore, not be construed as guaranteeing specific properties.

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Moplen HP500N

PRODUCT DESCRIPTION : Polypropylene Homopolymer Pellets

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS #
Polypropylene Homopolymer	>95	9003-07-0
Stabilizers (trade secret)	<5	

COMMENTS : This product is not considered a hazardous material at temperatures below the melting point as determined by HMC Polymers according to the U.S. Occupational Safety and Health Act definitions and regulation, including the Hazard Communication Standard 29 CFR 1910.1200. This product is not considered a controlled substance by HMC Polymers according to Canada's WHMIS regulations. Threshold Limit Values (TLV) or Permissible Exposure Limit (PEL) values are not established. This material is not expected to cause physiologic impairment at low concentration. Until a specific TLV is adopted by ACGIH (American Conference of Governmental Hygienists), or an OSHA (Occupational Safety and Health Administration) PEL standard is issued, HMC Polymers suggests that this material be treated as a nuisance dust or particulate in accordance with the recommendations of ACGIH.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE : Translucent to white solid pellets

IMMEDIATE CONCERNS : Spilled material may present a slipping hazard. This product as shipped is not classified as a combustible dust; however, a combustible concentration of dust may occur if fines are suspended in air. Avoid contact with strong oxidizing agents. When working with the material at temperatures above the melting point, the material will begin to decompose producing fumes that can contain carbon dioxide, carbon monoixde, ketones, acrolein, aldehydes and other unidentified organic compounds that come from the breakdown of the material. Adequate room and extruder ventilation should be provided to minimize exposures.

POTENTIAL HEALTH EFFECTS

EYES: Process vapors may irritate eyes.
SKIN: Exposure to molten resin may cause thermal burns.
INGESTION: Not Applicable.
INHALATION: Process vapors may cause respiratory tract irritation.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Irritation or redness.
SKIN: Not Applicable.
INGESTION: Not Applicable.
INHALATION: Irritation of the nose, throat and respiratory tract.
ACUTE TOXICITY : Process vapors may cause eye and respiratory tract irritation.
CHRONIC : None Known.
CARCINOGENICITY : None Known.
MUTAGENICITY : None Known

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: None Known.
TERATOGENIC EFFECTS: None Known.

MEDICAL CONDITIONS AGGRAVATED: None Known.

ROUTES OF ENTRY: Eye, Inhalation

TARGET ORGAN STATEMENT: None Known.

CANCER STATEMENT: This product is not considered to be a carcinogen by OSHA, IRAC or NTP.

IRRITANCY: Exposure to process vapors may cause eye and respiratory tract irritation.

SENSITIZATION: None Known.

WARNING CAUTION LABELS: Burn Risk – Avoid contact with molten resin. Explosion Risk – Prevent accumulation of dust particles. Slipping Risk – Keep walking surfaces free of spilled material. Vapor Risk – Provide ventilation to avoid exposure to process vapors.

COMMENTS HEALTH: None.

HEALTH HAZARDS: Process vapors may cause eye and respiratory tract irritation.

PHYSICAL HAZARDS: Spilled material may present a slipping hazard. Exposure to molten resin may cause thermal burns.

---

4. FIRST AID MEASURES

EYES: Flush eyes with water for 15 minutes. Get medical attention.

SKIN: Molten resin – If molten material comes in contact with the skin, cool under ice water or a running stream of water. DO NOT attempt to remove the material from the skin. Removal could result in severe damage. Get medical attention.

INGESTION: Not Applicable.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

ANTIDOTES: Not Applicable.

NOTES TO PHYSICIAN: None.

ADDITIONAL INFORMATION: None.

---

5. FIRE FIGHTING MEASURES

AUTOIGNITION TEMPERATURE: Not Determined.

EXTINGUISHING MEDIA: Use foam, carbon dioxide, or water spray when fighting fires involving this material.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified organic compounds.

EXPLOSION HAZARDS: Product as shipped is not a combustible dust. However, a combustible concentration of dust may occur when fines are suspended in air.

FIRE FIGHTING PROCEDURES: Standard procedure for Class A fires.

FIRE FIGHTING EQUIPMENT: As in any fire, water self-contained pressure demand breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

SENSITIVE TO STATIC DISCHARGE: Static discharge could be an ignition source for a combustible concentration of dust.

SENSITIVITY TO IMPACT: Not Applicable.

---

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Sweep up material and place in a disposal container.

LARGE SPILL: Vacuum or sweep up material and place in a disposal container.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Keep pellets out from waterways.

LAND SPILL: Not Yet Determined.

GENERAL PROCEDURES: Vacuum or sweep up material and place in a disposal container.

SPECIAL PROTECTIVE EQUIPMENT: None.

---

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Keep away from heat, sparks and flame.

HANDLING: Ground and bond containers when transferring material.

STORAGE: This product may react with strong oxidizing agents and should not be stored near such materials. Store boxed and bags of material in areas protected with automatic sprinklers.

COMMENTS : Precautions on Stacking Palletised Bags
Only double-stack materials when the pallet is clearly stable, squared, and safe to be stacked.
If the HMC Polymers delivery paperwork indicates that material may only be single stacked, or if the delivered pallets of
material carry a pictogram indicating single stacking, then on no account should these materials be double stacked.
Ensure that staff is skilled, and fully trained in safe handling of HMC Polymers' products.
Only double-stack material in a cool, dry, warehouse environment.
Keep walkways clear, and never stack product adjacent to walkways, including the front of a stack,
Make regular visual inspections of the warehouse. Damaged or leaning stacks should immediately be de-stacked. Damaged bags should immediately be removed from the pallet.
Product may be stacked in proprietary racking systems, which the racking vendor has confirmed as fit for purpose, incorporating proper support for the pallet, and designed for at least 1.5 tonnes gross pallet weight. Pallets stored in racking systems should be evenly distributed.
The external overwrap film is part of the overall pallet integrity and once removed special care must be taken and pallets must only be single stacked.
Never attempt to stack pallets stored outside.
Never attempt to stack pallets on a sloping floor.
Stacks can fall over within a few minutes when bottom bag(s) is(are) leaking. Before repairing the leaking bag(s), the top bag/pallet (if any) must be removed.
It is not recommended to palletise or double-stack Jumbo-Bags.
If in any doubt- Do not stack.
Jumbo bags are designed for single trip use only, and should not be re-used.

STORAGE TEMPERATURE: 60°C (140°F) maximum.

STORAGE TEMPERATURE NOTES: Stored in a cool place below 60°C, 140°F.

ELECTROSTATIC ACCUMULATION HAZARD: Material may accumulate static charges during transfers. Ground and bond containers when transferring material.

---

8. EXPLOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS : Provide adequate room ventilation. Provide adequate ventilation at the extruder to minimize exposure to process vapors. Eliminate ignition sources during repair and maintenance operations.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields (or goggles).

SKIN: When handling or processing resins at elevated temperatures or in a molten state, wear protective clothing over the skin to prevent contact.

RESPIRATORY: A respiratory protection program that meets OSHA 1910.134, ANSI Z88.2 and/or CSA Z94.4-93 requirements must be followed whenever workplace conditions warrant use of a respirator.

PROTECTIVE CLOTHING: When handling or processing resins at elevated temperatures or in a molten state, wear protective clothing over the skin to prevent contact.

OTHER USE PRECAUTIONS: Eyewash fountains and safety showers should be easily accessible.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE : Solid

ODOR : Slightly waxy odor

APPEARANCE: Pellet

COLOR: Translucent to white

MELTING POINT: >120^{O}C (248^{o}F)

SPECIFIC GRAVITY: 0.88 TO 0.92

COMMENTS:

PERCENT VOLATILE: <0.4%
WATER SOLUBILITY: Negligible

---

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: No

CONDITIONS TO AVOID: Keep away from heat, sparks and flame.

POLYMERIZATION: Product will not undergo polymerization.

HAZADOUS DECOMPOSITION PRODUCTS: At elevated temperature the material will begin to decompose, producing fumes that can contain carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified organic compounds.

INCOMPATIBLE MATERIALS: Oxidizing materials.

---

11. TOXICOLOGICAL INFORMATION

GENERAL COMMENTS: None Known

---

12. ECOLOGICAL INFORMATION ENVIRONMENTAL

DATA: Not Available ECOTOXICOLOGICAL

INFORMATION: Not Available DISTRIBUTION: Not

Available

CHEMICAL FATE INFORMATION: Not readily biodegradable.

---

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: (1) Recycle (reprocess). (2) Incineration including energy recovery of waste material in a permitted facility in accordance with local, state or provincial and federal regulations. (3) Landfilling in a licensed facility in accordance with local, state or provincial and federal regulations.

RCRA HAZARD CLASS: This product is not judged to be a hazardous waste by any local, state or federal regulations; however, it may be listed as industrial waste in some states or provinces.
This product in not listed in the U.S. federal hazardous waste regulations, 40 CFR 261.33 paragraphs (e) or (f), i.e., chemical products that are considered hazardous if they become waste. It does not exhibit any of the hazardous characteristics listed in 40 CFR 261 Subpart C. State or local hazardous waste regulations may apply if difference from the federal.

14. TRANSPORT INFORMATION

SPECIAL SHIPPING NOTES: This product is not regulated by DOT, IMO, IATA, Canadian TDG and associated regulations, ADR or RID.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
TITLE III NOTES: This product is not subject to SARA Title III requirements.
TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA STATUS: All ingredients in this product are in compliance with TSCA.

OSHA HAZARD COMM. RULE: This product is not considered a hazardous material at the temperatures below the melting point as determined by HMC Polymers according to OSHA definitions.

CLEAN WATER ACT: This product is not regulated under EPA's Clean Water Act/NPDES rules as "floating material". In addition, this product is considered "significant material" under the EPA's storm water permit rules.

CANADA

WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM): This product is not considered a controlled substance under WHMIS. This MSDS meets WHMIS format requirements.
CANADIAN ENVIRONMENTAL PROTECTION ACT: All ingredients in this product are listed under CEPA on the DSL.

EUROPEAN COMMUNITY

EUROPEAN COMMUNITY REGULATORY: All ingredients are in compliance with EINECS/ELINCS.

16. OTHER INFORMATION

APPROVED BY : Dr. Friederike Morhard Title : Business Innovation Manager

MANUFACTURER DISCLAIMER:
The information contained in this Material Safety Data Sheet has been complied from sources, which HMC Polymers considers reliable and accurate to the best of HMC Polymers' knowledge. The information relates only to the specific product described above, and not to use of the product in combination with another material. Customers and other users should read this MSDS and the product label carefully before using the product. HMC Polymers neither assumes, nor authorizes anyone to assume on HMC Polymers' behalf, any liability in connection with the use of the information in this MSDS.
Customers and other users should do their own testing before making commercial use of the product to ensure that the product is fit for the intended application and that the product can be used, and any waste material disposed of, safely, properly, and legally based on the customer's or other user's circumstances.

HMC POLYMERS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT, INCLUDING (WITHOUT LIMITATION) WARRANTIES OF MERCHANABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE CUSTOMER OR OTHER USER OF THE PRODUCT ASSUMES ALL RISK AND LIABILITY ARISING OUT OF THE USE OF THE PRODUCT, WHETHER USED ALONE OR IN COMBINATION WITH OTHER MATERIALS. HMC POLYMERS' LIABILITY, IF ANY, FOR BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE (INCLUDING THAT OF HMC POLYMERS) OR OTHER TROT, STRICT LIABILITY, OR ANY OTHER CLAIM SHALL NOT EXCEED IN AMOUNT THE PURCHASE PRICE OF HMC POLYMERS PRODUCTS WITH RESPECT TO WHICH SUCH CAUSE AROSE. IN NO EVENT SHALL HMC POLYMERS BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INCIDENT DAMAGES.

MATERIAL SAFETY DATA SHEET

PVC Compound Style HM10054

Ⅰ. Product name of plastic particles of information

HM-09012

Ⅱ. Ingredients identification information

Name：Polyvinyl Chloride
Synonyms name：PVC，Vinyl
CAS Number：Non application to compound
Component of Hazardous Substances (Composition percentage)：Non

Chemical composition

Components	Concentration (%)	OSHA PEL	ACGIH TLV	Other Limits Recommended
Polyvinyl chloride resin	69-79	NA	10 mg/m^3	-
Non-Phthalate plasticizer	19-29	NA	NA	ACGIH TLV-TWA 5 mg/m^3 TLV-STEL 10 mg/m^3
Ca-Zn Stabilizer	0.2-5	NA	NA	-
Organ phosphorus Stabilizer	0.2-5	NA	NA	-
Non-Hazardous Ingredients	0.2-5	NA	NA	-
Color powder	0.0001-0.0002	NA	NA	-

Ⅲ. Hazard Identification Data

The most important harmful effects	Health effects: PVC plastic pellets at room temperature, there is no hazard to health, at 200 ℃ over the release of HCl (hydrogen chloride) will stimulate the respiratory tract.
	Environmental impact: None
	Physical and chemical hazards: None
	Special hazards: None
Main symptoms: None	
Items hazard classification: None	

Ⅳ. Aid Measures

Different exposure pathways of the first aid

- Inhalation: No
- Contact with the skin: The melting of the PVC to touch the skin, needs a large amount of water immediately after cooling in accordance with the clinical approach to scald
- Eye contact: plenty of water flushing
- Ingestion: No

The most important symptoms and harmful effects: None

First aid personnel protection: No

The physician's Tip: Do not need

Ⅴ. Fire-fighting measures

For fire extinguishing agent: dry chemical powder, foam, water

The fire may face special hazards: high-temperature decomposition HCl, CO, CO_2

Special fire fighting procedures

1. Fire-fighting personnel should meet to a self-contained breathing apparatus
2. PVC plastic pellets do not burn, but if it continued to heat at the scene easy to decomposition of HCl, CO, CO_2

Firemen's special protective equipment: gas type or pressure-type full-type to bring their own breathing mask

Ⅵ. Leakage Treatment

Individuals should pay attention to matters: None
Environmental precautions: None
Clean-up methods: 1. Spoon the particles to leak into the container to avoid the risk of personnel slipping 2. Placed in a suitable container to prepare for re-use or disposal

Ⅶ. For safe disposal and storage methods

Disposal: 1. PVC plastic pellets process will be slightly volatile smoke and odors, the main ingredient is water steam and a small amount of hydrogen chloride gas, in the workplace should have good ventilation or the installation of ventilation equipment. 2. High temperature combustion will release HCl, non-incineration
Storage: 1. Placed in a cool, ventilated the area 2. Keep away from heat, sparks, flame

Ⅷ. Exposure prevention measures

Project Control parameters: ● Eight-hour time-weighted average permissible concentration of day / short period of time an average permissible concentration / maximum allowable concentration: None ● Bio-indicators: No LD50/LC50 Information found: None
Personal Protective Equipment: ● Eye protection: chemical safety goggles ● Respiratory Protection: Due to improper operation caused by plastic decomposition of the situations arise, it is recommended to use high efficiency filtration of air purifiers with breathing protection. ● Hand protection: protective gloves ● Skin and organism protection: Not required
Health measures: workplace non-smoking eating, wash their hands after handling

IX. Physical and chemical properties

<table>
<tr><td colspan="2" rowspan="3">State of matter: solid</td><td>ph：-</td></tr>
<tr><td>Appearance：granule</td></tr>
<tr><td>Flavor：-</td></tr>
<tr><td>Blowing point ：-</td><td>Melting point：-</td><td>Vapor Pressure： -mmHg</td></tr>
<tr><td colspan="2">Vapor Density：(air =1)</td><td>Special gravity：(H_2O=1)1.10~1.35</td></tr>
<tr><td colspan="2">Decomposition temperature：200℃</td><td>Flash point：300℃
Test method：open-cup</td></tr>
<tr><td colspan="2">Auto-ignition temperature：430℃</td><td>Explosion limit：-</td></tr>
<tr><td colspan="2">Evaporation rate：-(ethyl acetate = 1)</td><td>Water solubility: slight</td></tr>
</table>

X. Stability and reactivity

Stability: stable at room temperature Special situations that might endanger the reaction： high-temperature incineration may be HCl gas.
To avoid the situation：high-temperature incineration
To avoid the substances: acetic acid processing system to avoid mixing the copolymer and ammonia raw materials
Hazardous decomposition products：HCl, CO, CO_2

XI. Toxicity data

Acute toxicity：None
Local Effect：None
Sensitivity：None
Chronic toxicity or long-term toxicity：None
Special effects：high-temperature incineration would be HCl gas

XII. Ecology

Possible environmental impact / environmental flows Distribution: This product can not be biodegradable, but can be through the appropriate manner to recycle.

XIII. Waste disposal methods

Waste disposal method: According to relevant laws and regulations dealing with waste

XIV. Shipping information

International transport regulations: 1. Shipping name: Polyvinyl Chloride compound 2. Products / size information reports: 25kg UN No.: None
Domestic special delivery requirements: None
Special transport methods and precautions: delivery process should be to avoid leakage of PVC plastic pellets

XV. Regulation information

Applicable laws and regulations: Labor Safety and Health and the relevant laws and regulations.

MATERIAL SAFETY DATA SHEET

PVC Compound Style HM10054

Ⅰ. Product name plastic particles of information

HM-09014

Ⅱ. Ingredients identification information

Name: Polyvinyl Chloride
Synonyms name: PVC, Vinyl
CAS Number: Non application to compound
Component of Hazardous Substances (Composition percentage): Non

Chemical composition

Components	Concentration (%)	OSHA PEL	ACGIH TLV	Other Limits Recommended
Polyvinyl chloride resin	59-69	NA	10 mg/m^3	-
Non-Phthalate plasticizer	35-45	NA	NA	ACGIH TLV-TWA 5 mg/m^3 TLV-STEL 10 mg/m^3
Ca-Zn Stabilizer	0.2-5	NA	NA	-
Organ phosphorus Stabilizer	0.2-5	NA	NA	-
Non-Hazardous Ingredients	0.2-5	NA	NA	-
Color powder	0	NA	NA	-

Ⅲ. Hazard Identification Data

The most important harmful effects	Health effects: PVC plastic pellets at room temperature, there is no hazard to health, at 200 ℃ over the release of HCl (hydrogen chloride) will stimulate the respiratory tract.
	Environmental impact: None
	Physical and chemical hazards: None
	Special hazards: None
Main symptoms: None	
Items hazard classification: None	

Ⅳ. Aid Measures

Different exposure pathways of the first aid ● Inhalation: No ● Contact with the skin: The melting of the PVC to touch the skin, needs a large amount of water immediately after cooling in accordance with the clinical approach to scald ● Eye contact: plenty of water flushing ● Ingestion: No
The most important symptoms and harmful effects: None
First aid personnel protection: No
The physician's Tip: Do not need

Ⅴ. Fire-fighting measures

For fire extinguishing agent: dry chemical powder, foam, water
The fire may face special hazards: high-temperature decomposition HCl, CO, CO_2
Special fire fighting procedures 1. Fire-fighting personnel should meet to a self-contained breathing apparatus 2. PVC plastic pellets do not burn, but if it continued to heat at the scene easy to decomposition of HCl, CO, CO_2 Firemen's special protective equipment: gas type or pressure-type full-type to bring their own breathing mask

Ⅵ. Leakage Treatment

Individuals should pay attention to matters: None
Environmental precautions: None
Clean-up methods: 1. Spoon the particles to leak into the container to avoid the risk of personnel slipping 2. Placed in a suitable container to prepare for re-use or disposal

Ⅶ. For safe disposal and storage methods

Disposal: 1. PVC plastic pellets process will be slightly volatile smoke and odors, the main ingredient is water steam and a small amount of hydrogen chloride gas, in the workplace should have good ventilation or the installation of ventilation equipment. 2. High temperature combustion will release HCl, non-incineration
Storage: 1. Placed in a cool, ventilated the area 2. Keep away from heat, sparks, flame

Ⅷ. Exposure prevention measures

Project Control parameters: ● Eight-hour time-weighted average permissible concentration of day / short period of time an average permissible concentration / maximum allowable concentration: None ● Bio-indicators: No LD50/LC50 Information found: None
Personal Protective Equipment: ● Eye protection: chemical safety goggles ● Respiratory Protection: Due to improper operation caused by plastic decomposition of the situations arise, it is recommended to use high efficiency filtration of air purifiers with breathing protection. ● Hand protection: protective gloves ● Skin and organism protection: Not required
Health measures: workplace non-smoking eating, wash their hands after handling

Ⅸ. Physical and chemical properties

<table>
<tr><td colspan="2" rowspan="3">State of matter: solid</td><td>ph：-</td></tr>
<tr><td>Appearance：granule</td></tr>
<tr><td>Flavor：-</td></tr>
<tr><td>Blowing point ：-</td><td>Melting point：-</td><td>Vapor Pressure： -mmHg</td></tr>
<tr><td colspan="2">Vapor Density：(air =1)</td><td>Special gravity：(H_2O=1)1.10~1.35</td></tr>
<tr><td colspan="2">Decomposition temperature：200℃</td><td>Flash point：300℃
Test method：open-cup</td></tr>
<tr><td colspan="2">Auto-ignition temperature：430℃</td><td>Explosion limit：-</td></tr>
<tr><td colspan="2">Evaporation rate：-(ethyl acetate = 1)</td><td>Water solubility: slight</td></tr>
</table>

Ⅹ. Stability and reactivity

Stability: stable at room temperature Special situations that might endanger the reaction： high-temperature incineration may be HCl gas.
To avoid the situation: high-temperature incineration
To avoid the substances: acetic acid processing system to avoid mixing the copolymer and ammonia raw materials
Hazardous decomposition products： HCl, CO, CO_2

Ⅺ. Toxicity data

Acute toxicity: None
Local Effect: None
Sensitivity: None
Chronic toxicity or long-term toxicity: None
Special effects: high-temperature incineration would be HCl gas

XII. Ecology

Possible environmental impact / environmental flows Distribution: This product can not be biodegradable, but can be through the appropriate manner to recycle.

XIII. Waste disposal methods

Waste disposal method: According to relevant laws and regulations dealing with waste

XIV. Shipping information

International transport regulations: 1. Shipping name: Polyvinyl Chloride compound 2. Products / size information reports: 25kg UN No.: None
Domestic special delivery requirements: None
Special transport methods and precautions: delivery process should be to avoid leakage of PVC plastic pellets

XV. Regulation information

Applicable laws and regulations: Labor Safety and Health and the relevant laws and regulations.

MATERIAL SAFETY DATA SHEET

PVC Compound Style T82TF13P(HM-09017)

I. Product name plastic particles of information

HM-09017

II. Ingredients identification information

Name : Polyvinyl Chloride
Synonyms name : PVC , Vinyl
CAS Number : Non application to compound
Component of Hazardous Substances (Composition percentage) : Non

Chemical composition

Components	Concentration (%)	OSHA PEL	ACGIH TLV	Other Limits Recommended
Polyvinyl chloride resin	49-59	NA	10 mg/m^3	-
Non-Phthalate plasticizer	40-50	NA	NA	ACGIH TLV-TWA 5 mg/m^3 TLV-STEL 10 mg/m^3
Ca-Zn Stabilizer	0.2-5	NA	NA	-
Organ phosphorus Stabilizer	0.2-5	NA	NA	-
Non-Hazardous Ingredients	0.2-5	NA	NA	-
Color powder	0.0001-0.0002	NA	NA	-

III. Hazard Identification Data

The most important harmful effects	Health effects : PVC plastic pellets at room temperature, there is no hazard to health, at 200 ℃ over the release of HCl (hydrogen chloride) will stimulate the respiratory tract.
	Environmental impact : None
	Physical and chemical hazards : None
	Special hazards : None
Main symptoms : None	
Items hazard classification : None	

IV. Aid Measures

Different exposure pathways of the first aid

- Inhalation : No
- Contact with the skin : The melting of the PVC to touch the skin, needs a large amount of water immediately after cooling in accordance with the clinical approach to scald
- Eye contact : plenty of water flushing
- Ingestion : No

The most important symptoms and harmful effects : None

First aid personnel protection : No

The physician's Tip : Do not need

V. Fire-fighting measures

For fire extinguishing agent : dry chemical powder, foam, water

The fire may face special hazards : high-temperature decomposition HCl, CO, CO_2

Special fire fighting procedures

1. Fire-fighting personnel should meet to a self-contained breathing apparatus
2. PVC plastic pellets do not burn, but if it continued to heat at the scene easy to decomposition of HCl, CO, CO_2

Firemen's special protective equipment : gas type or pressure-type full-type to bring their own breathing mask

Ⅵ. Leakage Treatment

Individuals should pay attention to matters : None
Environmental precautions : None
Clean-up methods : 1. Spoon the particles to leak into the container to avoid the risk of personnel slipping 2. Placed in a suitable container to prepare for re-use or disposal

Ⅶ. For safe disposal and storage methods

Disposal : 1. PVC plastic pellets process will be slightly volatile smoke and odors, the main ingredient is water steam and a small amount of hydrogen chloride gas, in the workplace should have good ventilation or the installation of ventilation equipment. 2. High temperature combustion will release HCl, non-incineration
Storage : 1. Placed in a cool, ventilated the area 2. Keep away from heat, sparks, flame

Ⅷ. Exposure prevention measures

Project Control parameters : ● Eight-hour time-weighted average permissible concentration of day / short period of time an average permissible concentration / maximum allowable concentration : None ● Bio-indicators: No LD50/LC50 Information found : None
Personal Protective Equipment : ● Eye protection : chemical safety goggles ● Respiratory Protection : Due to improper operation caused by plastic decomposition of the situations arise, it is recommended to use high efficiency filtration of air purifiers with breathing protection. ● Hand protection : protective gloves ● Skin and organism protection : Not required
Health measures : workplace non-smoking eating, wash their hands after handling

IX. **Physical and chemical properties**

<table>
<tr><td colspan="2" rowspan="3">State of matter: solid</td><td>ph : -</td></tr>
<tr><td>Appearance : granule</td></tr>
<tr><td>Flavor : -</td></tr>
<tr><td>Blowing point : -</td><td>Melting point : -</td><td>Vapor Pressure : -mmHg</td></tr>
<tr><td colspan="2">Vapor Density : (air =1)</td><td>Special gravity : (H_2O=1)1.10~1.35</td></tr>
<tr><td colspan="2">Decomposition temperature : 200℃</td><td>Flash point : 300℃
Test method : open-cup</td></tr>
<tr><td colspan="2">Auto-ignition temperature : 430℃</td><td>Explosion limit : -</td></tr>
<tr><td colspan="2">Evaporation rate : - (ethyl acetate = 1)</td><td>Water solubility: slight</td></tr>
</table>

X. **Stability and reactivity**

Stability: stable at room temperature Special situations that might endanger the reaction : high-temperature incineration may be HCl gas.
To avoid the situation : high-temperature incineration
To avoid the substances : acetic acid processing system to avoid mixing the copolymer and ammonia raw materials
Hazardous decomposition products : HCl, CO, CO_2

XI. **Toxicity data**

Acute toxicity : None
Local Effect : None
Sensitivity : None
Chronic toxicity or long-term toxicity : None
Special effects : high-temperature incineration would be HCl gas

XII. **Ecology**

Possible environmental impact / environmental flows Distribution：This product can not be biodegradable, but can be through the appropriate manner to recycle.

XIII. **Waste disposal methods**

Waste disposal method：According to relevant laws and regulations dealing with waste

XIV. **Shipping information**

International transport regulations： 1. Shipping name：Polyvinyl Chloride compound 2. Products / size information reports：25kg、500kg UN No.： None
Domestic special delivery requirements: None
Special transport methods and precautions: delivery process should be to avoid leakage of PVC plastic pellets

XV. **Regulation information**

Applicable laws and regulations：Labor Safety and Health and the relevant laws and regulations.

MATERIAL SAFETY DATA SHEET

PVC Compound Style HM10054

Ⅰ. Product name plastic particles of information

TH0331P

Ⅱ. Ingredients identification information

Name：Polyvinyl Chloride
Synonyms name：PVC，Vinyl
CAS Number：Non application to compound
Component of Hazardous Substances (Composition percentage)：Non

Chemical composition

Components	Concentration (%)	OSHA PEL	ACGIH TLV	Other Limits Recommended
Polyvinyl chloride resin	69-79	NA	10 mg/m^3	-
Non-Phthalate plasticizer	19-29	NA	NA	ACGIH TLV-TWA 5 mg/m^3 TLV-STEL 10 mg/m^3
Ca-Zn Stabilizer	0.2-5	NA	NA	-
Organ phosphorus Stabilizer	0.2-5	NA	NA	-
Non-Hazardous Ingredients	0.2-5	NA	NA	-
Color powder	0.0001-0.0002	NA	NA	-

Ⅲ. Hazard Identification Data

The most important harmful effects	Health effects: PVC plastic pellets at room temperature, there is no hazard to health, at 200 ℃ over the release of HCl (hydrogen chloride) will stimulate the respiratory tract.
	Environmental impact: None
	Physical and chemical hazards: None
	Special hazards: None
Main symptoms: None	
Items hazard classification: None	

Ⅳ. Aid Measures

Different exposure pathways of the first aid

- Inhalation: No
- Contact with the skin: The melting of the PVC to touch the skin, needs a large amount of water immediately after cooling in accordance with the clinical approach to scald
- Eye contact: plenty of water flushing
- Ingestion: No

The most important symptoms and harmful effects: None

First aid personnel protection: No

The physician's Tip: Do not need

Ⅴ. Fire-fighting measures

For fire extinguishing agent: dry chemical powder, foam, water

The fire may face special hazards: high-temperature decomposition HCl, CO, CO_2

Special fire fighting procedures

1. Fire-fighting personnel should meet to a self-contained breathing apparatus
2. PVC plastic pellets do not burn, but if it continued to heat at the scene easy to decomposition of HCl, CO, CO_2

Firemen's special protective equipment: gas type or pressure-type full-type to bring their own breathing mask

Ⅵ. Leakage Treatment

Individuals should pay attention to matters: None
Environmental precautions: None
Clean-up methods: 1. Spoon the particles to leak into the container to avoid the risk of personnel slipping 2. Placed in a suitable container to prepare for re-use or disposal

Ⅶ. For safe disposal and storage methods

Disposal: 1. PVC plastic pellets process will be slightly volatile smoke and odors, the main ingredient is water steam and a small amount of hydrogen chloride gas, in the workplace should have good ventilation or the installation of ventilation equipment. 2. High temperature combustion will release HCl, non-incineration
Storage: 1. Placed in a cool, ventilated the area 2. Keep away from heat, sparks, flame

Ⅷ. Exposure prevention measures

Project Control parameters: ● Eight-hour time-weighted average permissible concentration of day / short period of time an average permissible concentration / maximum allowable concentration: None ● Bio-indicators: No LD50/LC50 Information found: None
Personal Protective Equipment: ● Eye protection: chemical safety goggles ● Respiratory Protection: Due to improper operation caused by plastic decomposition of the situations arise, it is recommended to use high efficiency filtration of air purifiers with breathing protection. ● Hand protection: protective gloves ● Skin and organism protection: Not required
Health measures: workplace non-smoking eating, wash their hands after handling

Ⅸ. Physical and chemical properties

<table>
<tr><td colspan="2" rowspan="3">State of matter: solid</td><td>ph：-</td></tr>
<tr><td>Appearance：granule</td></tr>
<tr><td>Flavor：-</td></tr>
<tr><td>Blowing point ：-</td><td>Melting point：-</td><td>Vapor Pressure： -mmHg</td></tr>
<tr><td colspan="2">Vapor Density：(air =1)</td><td>Special gravity：(H_2O=1)1.10~1.35</td></tr>
<tr><td colspan="2">Decomposition temperature：200℃</td><td>Flash point：300℃
Test method：open-cup</td></tr>
<tr><td colspan="2">Auto-ignition temperature：430℃</td><td>Explosion limit：-</td></tr>
<tr><td colspan="2">Evaporation rate：-(ethyl acetate = 1)</td><td>Water solubility: slight</td></tr>
</table>

Ⅹ. Stability and reactivity

Stability: stable at room temperature Special situations that might endanger the reaction： high-temperature incineration may be HCl gas.
To avoid the situation: high-temperature incineration
To avoid the substances: acetic acid processing system to avoid mixing the copolymer and ammonia raw materials
Hazardous decomposition products： HCl, CO, CO_2

Ⅺ. Toxicity data

Acute toxicity: None
Local Effect: None
Sensitivity: None
Chronic toxicity or long-term toxicity: None
Special effects: high-temperature incineration would be HCl gas

XII. Ecology

Possible environmental impact / environmental flows Distribution: This product can not be biodegradable, but can be through the appropriate manner to recycle.

XIII. Waste disposal methods

Waste disposal method: According to relevant laws and regulations dealing with waste

XIV. Shipping information

International transport regulations: 1. Shipping name: Polyvinyl Chloride compound 2. Products / size information reports: 25kg UN No.: None
Domestic special delivery requirements: None
Special transport methods and precautions: delivery process should be to avoid leakage of PVC plastic pellets

XV. Regulation information

Applicable laws and regulations: Labor Safety and Health and the relevant laws and regulations.

MATERIAL SAFETY DATA SHEET

PVC Compound Style HM10054

Ⅰ. Product name and manufacturer of plastic particles of information

TH0631N

Ⅱ. Ingredients identification information

Name：Polyvinyl Chloride
Synonyms name：PVC，Vinyl
CAS Number：Non application to compound
Component of Hazardous Substances (Composition percentage)：Non

Chemical composition

Components	Concentration (%)	OSHA PEL	ACGIH TLV	Other Limits Recommended
Polyvinyl chloride resin	55-65	NA	10 mg/m^3	-
Non-Phthalate plasticizer	33-43	NA	NA	ACGIH TLV-TWA 5 mg/m^3 TLV-STEL 10 mg/m^3
Ca-Zn Stabilizer	0.2-5	NA	NA	-
Organ phosphorus Stabilizer	0.2-5	NA	NA	-
Non-Hazardous Ingredients	0.2-5	NA	NA	-
Color powder	0	NA	NA	-

Ⅲ. Hazard Identification Data

The most important harmful effects	Health effects: PVC plastic pellets at room temperature, there is no hazard to health, at 200 ℃ over the release of HCl (hydrogen chloride) will stimulate the respiratory tract.
	Environmental impact: None
	Physical and chemical hazards: None
	Special hazards: None
Main symptoms: None	
Items hazard classification: None	

Ⅳ. Aid Measures

Different exposure pathways of the first aid

- Inhalation: No
- Contact with the skin: The melting of the PVC to touch the skin, needs a large amount of water immediately after cooling in accordance with the clinical approach to scald
- Eye contact: plenty of water flushing
- Ingestion: No

The most important symptoms and harmful effects: None

First aid personnel protection: No

The physician's Tip: Do not need

Ⅴ. Fire-fighting measures

For fire extinguishing agent: dry chemical powder, foam, water

The fire may face special hazards: high-temperature decomposition HCl, CO, CO_2

Special fire fighting procedures

1. Fire-fighting personnel should meet to a self-contained breathing apparatus
2. PVC plastic pellets do not burn, but if it continued to heat at the scene easy to decomposition of HCl, CO, CO_2

Firemen's special protective equipment: gas type or pressure-type full-type to bring their own breathing mask

Ⅵ. Leakage Treatment

Individuals should pay attention to matters: None
Environmental precautions: None
Clean-up methods: 1. Spoon the particles to leak into the container to avoid the risk of personnel slipping 2. Placed in a suitable container to prepare for re-use or disposal

Ⅶ. For safe disposal and storage methods

Disposal: 1. PVC plastic pellets process will be slightly volatile smoke and odors, the main ingredient is water steam and a small amount of hydrogen chloride gas, in the workplace should have good ventilation or the installation of ventilation equipment. 2. High temperature combustion will release HCl, non-incineration
Storage: 1. Placed in a cool, ventilated the area 2. Keep away from heat, sparks, flame

Ⅷ. Exposure prevention measures

Project Control parameters: ● Eight-hour time-weighted average permissible concentration of day / short period of time an average permissible concentration / maximum allowable concentration: None ● Bio-indicators: No LD50/LC50 Information found: None
Personal Protective Equipment: ● Eye protection: chemical safety goggles ● Respiratory Protection: Due to improper operation caused by plastic decomposition of the situations arise, it is recommended to use high efficiency filtration of air purifiers with breathing protection. ● Hand protection: protective gloves ● Skin and organism protection: Not required
Health measures: workplace non-smoking eating, wash their hands after handling

Ⅸ. Physical and chemical properties

<table>
<tr><td colspan="2" rowspan="3">State of matter: solid</td><td>ph：-</td></tr>
<tr><td>Appearance：granule</td></tr>
<tr><td>Flavor：-</td></tr>
<tr><td>Blowing point ：-</td><td>Melting point：-</td><td>Vapor Pressure： -mmHg</td></tr>
<tr><td colspan="2">Vapor Density：(air =1)</td><td>Special gravity：(H_2O=1)1.10~1.35</td></tr>
<tr><td colspan="2">Decomposition temperature：200℃</td><td>Flash point：300℃
Test method：open-cup</td></tr>
<tr><td colspan="2">Auto-ignition temperature：430℃</td><td>Explosion limit：-</td></tr>
<tr><td colspan="2">Evaporation rate：-(ethyl acetate = 1)</td><td>Water solubility: slight</td></tr>
</table>

Ⅹ. Stability and reactivity

Stability: stable at room temperature Special situations that might endanger the reaction： high-temperature incineration may be HCl gas.
To avoid the situation: high-temperature incineration
To avoid the substances: acetic acid processing system to avoid mixing the copolymer and ammonia raw materials
Hazardous decomposition products： HCl, CO, CO_2

Ⅺ. Toxicity data

Acute toxicity: None
Local Effect: None
Sensitivity: None
Chronic toxicity or long-term toxicity: None
Special effects: high-temperature incineration would be HCl gas

XII. Ecology

Possible environmental impact / environmental flows Distribution: This product can not be biodegradable, but can be through the appropriate manner to recycle.

XIII. Waste disposal methods

Waste disposal method: According to relevant laws and regulations dealing with waste

XIV. Shipping information

International transport regulations: 1. Shipping name: Polyvinyl Chloride compound 2. Products / size information reports: 25kg UN No.: None
Domestic special delivery requirements: None
Special transport methods and precautions: delivery process should be to avoid leakage of PVC plastic pellets

XV. Regulation information

Applicable laws and regulations: Labor Safety and Health and the relevant laws and regulations.

Plastics Division Shanghai, China

Tel:
Fax:

PRODUCT AND IDENTIFICATION

Product Name: Q281 polyethylene
Manufacturer:

COMPOSITION/INFORMATION ON INGREDIENTS

Polyethylene CAS# 9002-88-4 >99.7%
Mouthful additives for process and long term stabilization, no including hazard contents

HAZARDS SUMMARIZING

Hazard Type: Based on National Standards of China, this product is not considered to a chemical hazard.
Hazard Routes: Inhalation, ingestion.
Health Hazards: Not harmful to human body as per GB9691-1988
Environmental Hazards: Not easily to be degraded, dissolved or chemical reacted by nature, but can be degraded in sunlight. Environmental pollution may be possible especially to soil.
Fire and Explosion Hazards: The product can be burned but it dosen′t have any danger of fire and explosion under ambient temperature and pressure. Contact with strong oxidants may cause fire and explosion. The self-ignition point exceeds 350℃.

FIRST AID MEASSURES:

Skin Contact: Essentially nonirritating to skin. Not likely to result in injuring body because there is no harmful amount in the material. Wash off in soap water, running water or shower.
Eye Contact: Solid or dust may cause irritation or corneal injury due to mechanical action. Flush eyes with plenty of water over 20 min. Antixenic feeling occurs strongly, consult a physician.
Inhalation: Remove to fresh air if effects occur. Consult a physician.
Ingestion: No acute effects anticipated by this way, but take in harmful amount by mistake, consult a physician.

FIRE FIGHTING MEASURES

Hazard traits: To be combustible at high temperature, but not to be self-ignition under ambient temperature and pressure.
Hazardous Combustion Products: Under fire conditions the polymer decomposes. The smoke may contain some unidentified toxic and/or irritating compounds. Hazardous combustion products

may include, which are not limited, carbon monoxide and carbon dioxide.
Fire Fighting Measures and Fire Extinguishing Agent: No special requirements.
Fire Fighting Precautions and Measures: No special requirements.

ACCIDENTAL RELEASE MEASURES

Land Spill: Clean up and collect it in dry, clean containers.
Water Spill: Sweep up and collect it in clean containers. Inform local pollution control authorities and potential polluted water downstream users if it and/or polluted fluid enters waterway.

HANDLING AND STORAGE

Handling Notes: Local exhaust ventilation may be necessary for handling and the employees should avoid smog inhalation. Heat resistance gloves and work clothes are recommended. No smoking. Avoid contacting strong oxidants directly. Move and transportation, pay attention to avoiding package damage. Equip with fire fighting and accidental release handling equipments. Keep from environmental hazards, the empty package bags should be collected and handled.
Storage Notes: Store in a cool, dry and ventilation place. Away from fire, heat and strong oxidants. Keep packing hermetically sealed.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Good ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operation places where smog occurs.
Respiratory Protection: For most conditions, no respiratory protection should be taken. However, if handling at dusty places, use gauze masks.
Eye protection: For most conditions, no eye protection should be taken. However, if handling at dusty places, use goggles.
Body protection: Normally work clothing should be needed. When product is heated processing, adequate ventilation and/or engineering controls are required, where molten product is liable or likely to come into contact with the person, the following equipments are necessary:

1)Full face shield
2)Heat resistance gloves(long gaunt lets)
3)Cotton combination overalls with close fit at neck and wrists
4)Leather safety shoes or rubber boots(trousers worn outside)
5)Goggles
6)Safety helmet

Hand protection: Gloves

PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odour: White , odourless, plastic pellet.
Melting Point: 100-120℃.
Density: About 0.924-0.926 (g/cm^3)
Self-ignition point: >350℃
Solubility: Insoluble in water, swelling in xylene
Recommended usage: produce various super transparent light packing films
Polymer type: homopolymer

STABILITY AND REACTIVITY

Stability: Stable in nature

Materials to Avoid: Fluorin, xenon tetrafluoride and strong oxidants, nitric acid, sodium oxide and trinitromethane

Conditions to Avoid: Fire and strong sunlight.

Hazardous Decomposition Products: Decomposition products depend on temperature, other materials present and air supply. During thermal processing this polymer can degrade to produce trace hydrocarbons, acetaldehyde in limited quantities. Complete combustion results in carbon dioxide and water.

TOXICOLOGICAL INFORMATION

Acute toxicity: No

Irritation test: nonirritating to skin or eyes

Mutagenicity: No

Carcinogenesis: No evidences for human being

ECOLOGICAL INFORMATION

Ecological Hazards: No bioaccumulation and acute toxic condition are expected..

Biodegradation: In the terrestrial environment the material is expected to remain in the soil. In the aquatic environment it is expected to float.

Environmental Degradability: Degradation occurs under oxygen, ultraviolet and high temperature.

DISPOSAL CONSIDERATIONS

Disposal type: Normal solid disposal

Disposal Method: It is better to reuse this product. The entire disposal must come up to the local and nation standard criterion, which can be set on fire and/or buried.

TRANSPORT INFORMATION

UN code: No.3314 Molding plastic compound

Package mark: Molding plastic compound

Package type: Standard packaging. Other type package can be available as customer asked.

Transport note: Transport under ambient temperature , avoid rain or exposure to strong sunlight. Avoid transporting together with dust, sand, metal and inflammable material.

OTHER INFORMATION

Specification Code: SPC-SLB-PE-M002

Issue Date: Nov.1, 2008

Note: Based on our present comprehension to the product, the above information is correct. However, it can only regard as instruction purpose. It will be updated correspondingly when new information is obtained.

Safety Data Sheet: PVC Compound

According to Regulation (EU) No. 1907/2006

Date of Preparation: 22 March 2010 Supersedes: 28 August 2007

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name	8011-02
Synonyms	Polyvinyl Chloride Compound
Chemical Formula	**(**$C_2H_3CL)_n$ plus functional additives
CAS Name & No.	Not applicable (mixture)

2. HAZARDS IDENTIFICATION

PRECAUTIONARY INFORMTION

Caution: If proper procedures for processing PVC compounds are not followed, processing fumes and vapours can be liberated at elevated temperatures. The presence of these fumes or vapours may result, in exposure. Additionally, the composition of these fumes or vapours may vary widely according to the individual processing procedures and materials used. Processors must determine for themselves the appropriate equipment and procedures for their use.

POTENTIAL HEALTH EFFECTS

Primary Routes of Exposure: Inhalation of process emissions during periods of elevated temperature.

Eye: Vapours or fumes emitted during processes involving elevated temperatures may cause eye irritation.

Skin contact: Vapours or fumes emitted during processes involving elevated temperatures may cause skin irritation.

Skin Absorption: This material is initially a dry solid pellet: no absorption is likely to occur in its initial form. Vapours or fumes emitted during processes involving elevated temperatures may absorb through the skin at low levels.

Ingestion: Vapours or fumes emitted during processes involving elevated temperatures may be ingested at low levels. Adequate ventilation should be provided.

Inhalation: Vapours or fumes emitted during processes involving elevated temperatures may be inhaled if not adequately ventilated.

HAZARD CLASSIFICATION

Acute Effects: Fumes or vapours liberated from PVC pellets at high temperatures may be irritating to the eyes, skin and respiratory tract if not adequately ventilated.

Chronic Effects: Chronic exposure to fumes and vapours from heated or thermally decomposed plastics may cause an asthma-like syndrome due to the inhalation of process vapours or fumes. The onset of irritation maybe delayed for several hours. Fumes or vapours may accumulate within the facility during normal operating procedures that involve elevated temperatures. Exposure to these elevated concentrations, if not adequately ventilated, may have significant health effects.

Carcinogenic Effects: IARC has determined that there is inadequate evidence of carcinogenicity of polyvinyl chloride resin in both animals and humans. The overall evaluation of polyvinyl chloride is group 3, meaning that it is not classifiable as a carcinogen (IARC Vol. 19, 1979). Polyvinyl chloride is not listed as a carcinogen by OSHA, NIOSH, NTP, IARC OR EPA.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components / Ingredient Name	CAS No.	Hazard Symbol	% wt *or* % vol	R-Phrases
DOP / Di-Octyl Phthalate / Di-2-ethylhexyl Phthalate	117817	T	>5%	60-61

4. FIRST AID MEASURES

Inhalation: No adverse effects anticipated under normal conditions, if adequately ventilated. However if exposure occurs, remove victim to fresh air. Obtain medical attention if irritation persists.

Skin Contact: No adverse effects anticipated under normal conditions. However if vapour or fume exposure occurs, wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Eye Contact: In the event of eye irritation, flush eyes with water for at least 15 minutes. Obtain medical attention if irritation persists.

Ingestion: Seek medical advice.

5. FIRE FIGHTING MEASURES

Flash Ignition Temperature: Not Applicable

Auto Ignition Temperature: Not Applicable

Fire Fighting Procedures / Fire Extinguishing Media: Water, Carbon Dioxide, foam, powder type extinguishing agents, sand.

Unusual Fire and Explosion Hazards: Dense smoke, possibly containing hydrochloric acid and carbon monoxide may be emitted when burned. Rigid PVC compounds will not normally continue to burn after ignition without an external fire source. Do not allow fire fighting runoff water to enter streams, rivers or lakes. The water may collect HCL and other combustion products. **See section 10 for further information.**

Fire-Fighting Equipment: Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full-face piece operated in pressure-demand or positive-pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Sweep or vacuum material and place in a disposal container. **See section 11 for further information.**

7. HANDLING AND STORAGE

Transport Temperature: Ambient

Electrostatic Accumulation Hazard? Yes, use proper grounding procedure.

Storage Requirements: Store at room temperature in a clean and well-aired environment. Avoid direct light and excessive heat and humidity.

Regulatory Requirements: None

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Provide general and/or local exhaust ventilation to control levels below the exposure guidelines. Adequate ventilation should be provided as conditions warrant.

Respiratory Protection: For most conditions, no respiratory protection should be needed. However, if the material is overheated and starts smouldering, wear a positive pressure self- contained breathing apparatus for respiratory protection.

Eye Protection: Use safety glasses. If there is a potential for exposure to particles, which could cause mechanical eye injury, wear chemical glasses.

Skin Protection: Normally clean clothing should be sufficient. Wash skin contacted by PVC pellets. Wash contaminated clothing before reusing.

Exposure Guidelines: None established for PVC compounds.

Constituents with threshold limit values to be monitored at the workplace:
Di-2-ethylhexyl Phthalate UK EH40: OES 5mg/m^3 8h TWA. UK EH40: OES 10mg/m^3 10min TWA.

Additional hazardous constituents may be released during processes involving elevated temperatures. These constituents are dependent on processing and should be verified by the processor.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Local and national regulations regarding the handling and storage may vary widely. The user should acquire knowledge of these and other local and national regulations as well as consult with the proper authority for guidance in developing adequate handling procedures and constructing appropriate storage facilities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Appearance: Solid Pellets

Odour: Odourless to mild

Specific Gravity at 23^{o}C: 1.23

Vapour Pressure: Not Applicable

Explosion Thresholds, **Lower:** Not Applicable
Upper: Not Applicable

Vapour Density (Air=1): Not Applicable

Water Solubility: Essentially Insoluble

Boiling Point: Not Applicable

Melting Point: Not Applicable

Evaporation Rate: Non-Volatile

PH: Not Applicable – solid

Flash Point: Not Applicable

10. STABILITY AND REACTIVITY

Stability: Stable → Unstable

Conditions to avoid: Temperatures in excess of 200^{0}C for extended periods of time. This will vary depending on type of processing equipment and operating conditions, the user should determine appropriate and safe operating conditions for the PVC compound.

Materials to avoid: Polyvinyl Chloride compounds should not come into contact with Acetal or Acetal copolymers in elevated temperature processing equipment. The two materials are not compatible and will react in a violent decomposition when mixed under conditions of heat and pressure.

Hazardous decomposition products: Overheating may cause thermal degradation of PVC compound. Fumes and vapours (including CO, CO_2 and HCL) may be generated during this thermal degradation. Emissions are also possible during normal operating conditions, and may accumulate within an inadequately ventilated facility.

11. TOXICOLOGICAL INFORMATION

No data are available on this compound.

12. ECOLOGICAL INFORMATION

No data are available on this compound.

13. DISPOSAL CONSIDERATIONS

The following advice only applies to the product as supplied.

Product Disposal: Incineration or landfill. Dispose of in accordance with all local and national regulations. Recycling of pure sorted product is possible.

14. TRANSPORT INFORMATION

Not a hazardous substance within the meaning of transport regulations.

15. REGULATORY INFORMATION

Marking in accordance with EC Directives: Not necessary

Indications of risks and safety precautions for the initial product which cannot be applied to the final product:

Di-2-ethylhexyl Phthalate:
R60: May impair fertility
R61: May cause harm to the unborn child
S45: In case of accident or if you feel unwell, seek medical advice immediately
S53: Avoid exposure – obtain special instructions before use

16. OTHER INFORMATION

Disclaimer:

This information is provided in accordance with Regulation (EU) No.1907/2006. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding the product described or the information contained herein. Nothing stated herein shall be construed as a recommendation or license to use any product in conflict with any existing patents. It has no control over processing conditions or end use, and expressly disclaims responsibility for the suitability of this product for any given application, and for any damages resulting from reliance on the information contained herein. The information contained herein shall not be considered part of the terms or conditions of sale of this product.