

Material Safety Data Sheet

1. Identification of the material and company

Material identity: Trade name : TAISOX High Density Polyethylene9000、9001、8010、8012、8006、8003、 8003H、7003、9003、7001、7501、7500、8001、8001U、9002、9007、9040、 8040、8050、8070、7200、7200F、8230、8300
Material NO:TC-1055
Producer/Supplier: Formosa Plastics Corporation Mailiao Plant : Formosa Industrial Park No.1, Mailiao, Yunlin county, Taiwan Lin-Yuan Plant : 1, Hsih-Hwa 1 ST Road, Lin-Yuan District, Kaohsiung City, Taiwan
Emergency Phone / Fax : 886-5-6811180/886-5-6811122

2. Hazard indication:

Referring to EEC directive 88/379, the material is classified <u>NOT DANGEROUS</u> .
2.2 Main personal hazards: -fire, see §5 -Slipping in case of spillage/leakage, see §6 -Inhalation of vapours,fumes,powders, see §7 -Hazard of contact with molten polymer, see §4
2.3 Powders have specific fire risks
2.4 Environment: Lack of biodegradability, see§12

3. Composition / Information on Ingredients

Technical name : High Density Polyethylene,HDPE
Chemical name : Ethylene Polymer
Ingredient percent(%):HDPE≥99.6%、Other≤0.4%
Chemical Abstracts Number (CAS No.) : 9002-88-4
Symbol of the basic polymer against standard ISO 1043-1 : PE-HD
Dangerous components: NONE

4. First Aid Measures :

Skin :If molten polymer gets on skin, cool rapidly with cool water. Burns have to be treated clinically.
EYES: Wash abundantly with water.

5. Fire Fighting Measure :

Suitable Extinguishing Media: Water, Water fog, CO2, Foam or dry extinguishers
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Exting. Media to be avoided: NONE

Combustion products: Carbon dioxide, water. In case of incomplete combustion: carbon monoxide, hydrocarbons, aldehydes, ketones and acetic acid may be developed.

6. Spillage

In case of spillage/leakage scoop to container to avoid danger of skidding.

7. Handling and Storage

7.1 During the processing of the material, avoid inhalation of fumes, or powders, by providing good ventilation of the workroom and, if necessary, they have to be trapped by intake in an effective manner. If these measure are taken, traces of aldehydes or ketones which may arise during the process, will remain under the TLV/TWA value. Avoid dispersion of dust in air to reduce potential for ignition or explosions.

7.2 Storage: Out of direct sun, in well ventilated, cool and dry places

7.3 fire precautions: Equipment must be earthed, to avoid static electric charges. Any contact with flame or hot surface must be avoided.

8. Personal Protection

Use gloves, goggles or eyeshade and normal working equipment.

In case of powder, avoid inhalation.

9. Physical and Chemical Properties / Characteristics

Appearance: Solid	Form : Pellet
Colour : Translucent	Odor: none
pH value : -	Boiling Point / Boiling Range: °C
Decomposition Temperature : >400°C	Flash Point : > 570 °F > 300 °C Test Method : <input type="checkbox"/> Open Cup <input checked="" type="checkbox"/> Close Cup
Autoignition Temperature : ca.400°C	Exposure Limits : - %
Vapor Pressure : - (Below) mmHg@20°C	Vapor Density : - (Air=1.0)
Specific Gravity : 0.940-0.965 g/cm ³	Solubility in Water : negligible
Meltingpoint/ Freezing point: 126-138°C	Volatility:
n-octanol partition coefficient (lgKow):	

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10. Stability and Reactivity

Stable and chemically inert at room temperature. Protracted exposure to temperature over 250°C may cause resin degradation.

11. Toxicological Information

Exposures limits for the monomer have not been fixed. Avoid exposure to fume, eventually developed during the process, by intake and/or efficient ventilation of the working rooms.

TWA(ACGIH)for dust = 5 mg/m³

12. Ecological Information

The product is not biodegradable. It can be recycled using suitable technologies. It does not contain, as additives, compounds of lead, mercury, cadmium and chromium. It does not contain asbestos, CFC, HCFC; halons. It is not a water endangering material. It is very slowly degraded by solar UV irradiation.

13. Disposal Information

Disposal must be done in accordance with existing regulations. Landfilling and incineration can be considered in most cases suitable. Recycling is possible by melting and pelletizing.

14. Transport Information

The United Nations Number(UN-No) Not regulated

The United Nations Shipping Name Not regulated

D.O.T. Hazard Class Not regulated

Package Category Not regulated

Maritime Pollutants Not regulated

Special Transport Way And Note Not regulated

15. Regulation Information

None

16. Other Information

The information provided is given in good faith and is based on our actual knowledge. This is not a technical sheet for use of the product. This sheet does not exempt the user from knowing and applying all the relevant regulations and from taking all the relevant safety precautions.

Material Safety Data Sheet

Revision 2012-03-14

High Density Polyethylene (HDPE) -- Extrusion Grade Data Sheets

Grade			Pipe
			8001
Properties	Unit	Test Method	
Melt Index MI _{2.16}	g/10min	ASTM D1238	0.05
Melt Index MI ₅ /MI _{21.6}	g/10min	ASTM D1238	0.24 / 7.0
Density	g/cm ³	ASTM D1505	0.948
Thermal properties			
Melting point	°C	FPC Method	129
Brittleness point	°C	ASTM D746	<-70
Softening point	°C	ASTM D1525	122
Mechanical properties			
Tensile strength at yield	Kg/cm ²	ASTM D638	240
Tensile strength at break	Kg/cm ²	ASTM D638	360
Elongation at break	%	ASTM D638	850
Tensile Impact Strength	kg · cm/cm ²	ASTM D1822	750
Izod Impact Strength	Kg-cm/cm notch	ASTM D256	>30
Hardness	Shore D	ASTM D2240	64
ESCR	Hours	ASTM D1693	>1000
Die Swell Ratio	%	FPC Method	
Pich-off thickness	—	FPC Method	
Electrical properties			
Dielectric Constant 1MHz		ASTM D1531	2.3
Dissipation Factor 1MHz		ASTM D1531	
Volume Resistivity	Ohm-cm	ASTM D257	
Characteristics		Good ESCR High creep High intensity Good mechanical	
Application		Gas pipe Potable water pipe Sewer & drain pipe Chemical pipe Cable conduct	

PS.: 1. Processing Condition : Processing Temperature Yarn = 190 - 210°C 、 Monofilament = 260-280°C 、 I
Steel pipe coating = 180 - 210°C 、 Wire insulation coating= 220 - 250°C

- Data shown are average values and should not be examined for specifications .
- Sales Department: Taiwan Tel: 886-2-27178141,Fax: 886-2-27193260



台灣塑膠工業股份有限公司麥寮廠

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REACH SVHC Disclosure Form

REACH SVHC(高度關注物質) 宣告書

台塑烯 高密度聚乙烯塑膠粒 (TAISOX HIGH DENSITY POLYETHYLENE)

台塑烯 低密度聚乙烯塑膠粒 (TAISOX LOW DENSITY POLYETHYLENE)

台塑烯 線性低密度聚乙烯塑膠粒 (TAISOX LINEAR LOW DENSITY POLYETHYLENE)

台塑烯 聚乙烯醋酸乙烯酯塑膠粒 (TAISOX ETHYLENE-VINYL ACETATE COPOLYMER)

台塑烯以上產品均不含 REACH 所公告下列 73 項高度關注物質 (TAISOX grade(s)

POLYETHYLENE and EVA content no following substances that list of proposed REACH substances of very high concern)

No. 項次	Substance of very high Concern SVHC 高度關注物質	CAS NO. 化學編號	*Declaration (ppm-mg/kg) 宣告值
1	鄰苯二甲酸二丁酯 Dibutyl phthalate (DBP)	84-74-2	不含 (none)
2	五氧化二砷 Diarsenic pentaoxide	1303-28-2	不含 (none)
3	六溴環十二烷 Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	不含 (none)
4	鄰苯二甲酸二(2-乙基己基)酯 Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	不含 (none)
5	砷酸氫鉛 Lead hydrogen arsenate	7784-40-9	不含 (none)
6	短鏈氯化石蠟 Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	不含 (none)
7	蒽 Anthracene	120-12-7	不含 (none)
8	三氧化二砷 Diarsenic trioxide	1327-53-3	不含 (none)
9	鄰苯二甲酸丁酯苄基甲酯 Benzyl butyl phthalate (BBP)	85-68-7	不含 (none)
10	三乙基砷酸酯 Triethyl arsenate	15606-95-8	不含 (none)
11	氧化三丁錫 Bis(tributyltin)oxide (TBTO)	56-35-9	不含 (none)
12	4,4'-二氨基二苯甲烷 4,4'-Diaminodiphenylmethane (MDA)	101-77-9	不含 (none)
13	5-叔丁基-2,4,6-三硝基間二甲苯 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	不含 (none)
14	重鉻酸鈉·二倍結晶水 Sodium dichromate	7789-12-0 and 10588-01-9	不含 (none)
15	蒽油, 蒽糊 Anthracene oil, anthracene paste	90640-81-6	不含 (none)
16	鄰苯二甲酸二異丁酯 Diisobutyl phthalate	84-69-5	不含 (none)
17	蒽油, 蒽糊, 輕油 Anthracene oil, anthracene paste, distn. lights	91995-17-4	不含 (none)
18	黃色硫化鉻酸鉛 (C. I. 黃色 34) Lead sulfochromate yellow (C. I. Pigment Yellow 34)	1344-37-2	不含 (none)
19	煤瀝青, 高溫 Coal tar pitch, high temperature	65996-93-2	不含 (none)
20	矽酸鋁氧化鋯, 陶瓷耐火纖維 Zirconia Aluminosilicate, Refractory Ceramic Fibres	—	不含 (none)
21	矽酸鋁, 陶瓷耐火纖維 Aluminosilicate, Refractory Ceramic Fibres	—	不含 (none)
22	蒽油 Anthracene oil	90640-80-5	不含 (none)

23	蒽油, 蒽糊, 蒽餾分離液 Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	不含 (none)
24	三2-(氯乙基)磷酸酯 Tris(2-chloroethyl)phosphate	115-96-8	不含 (none)
25	2,4-二硝基甲苯 2,4-Dinitrotoluene	121-14-2	不含 (none)
26	蒽油, 含蒽量少 Anthracene oil, anthracene-low	90640-82-7	不含 (none)
27	鉻酸鉛 Lead chromate	7758-97-6	不含 (none)
28	紅色鉬鉻酸鉛硫酸鹽 (C.I. 紅色 104) Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	不含 (none)
29	丙烯醯胺 Acrylamide	79-06-1	不含 (none)
30	硼酸 Boric acid	10043-35-3 11113-50-1	不含 (none)
31	鉻酸鉀 Potassium chromate	7789-00-6	不含 (none)
32	鉻酸鈉 Sodium chromate	7775-11-3	不含 (none)
33	三氯乙烯 Trichloroethylene	79-01-6	不含 (none)
34	重鉻酸銨 Ammonium dichromate	7789-09-5	不含 (none)
35	重鉻酸鉀 Potassium dichromate	7778-50-9	不含 (none)
36	水合七氧四硼酸二鈉 Tetraboron disodium heptaoxide, hydrate	12267-73-1	不含 (none)
37	無水四硼酸二鈉 Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	不含 (none)
38	乙二醇乙醚 2-Ethoxyethanol	110-80-5	不含 (none)
39	硫酸鈷 (二價) Cobalt(II) sulphate	10124-43-3	不含 (none)
40	硝酸鈷 (二價) Cobalt(II) dinitrate	10141-05-6	不含 (none)
41	三氧化鉻 Chromium trioxide	1333-82-0	不含 (none)
42	乙二醇甲醚 2-Methoxyethanol	109-86-4	不含 (none)
43	醋酸鈷 (二價) Cobalt(II) diacetate	71-48-7	不含 (none)
44	碳酸鈷 (二價) Cobalt(II) carbonate	513-79-1	不含 (none)
45	從三氧化鉻生成的酸類與其它寡體: Acids generated from chromium trioxide and their oligomers: 鉻酸Chromic acid 重鉻酸Dichromic acid 鉻酸與重鉻酸的其它寡體Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2 尚未指定	不含 (none)
46	鄰苯二甲酸二-C6-8-支鏈庚酯 (1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP))	71888-89-6	不含 (none)
47	乙二醇乙醚醋酸酯 (2-ethoxyethyl acetate)	111-15-9	不含 (none)
48	鉻酸鋇 (strontium chromate)	7789-06-2	不含 (none)
49	聯胺或水合聯胺 (Hydrazine)	7803-57-8 302-01-2	不含 (none)
50	1-甲基吡咯烷酮 (1-methyl-2-pyrrolidone)	872-50-4	不含 (none)
51	鄰苯二甲酸二(C7-11支鏈與直鏈)烷基酯 (1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP))	68515-42-4	不含 (none)
52	1,2,3-三氯丙烷 (1,2,3-trichloropropane)	96-18-4	不含 (none)
53	氯化鈷 Cobalt dichloride	7646-79-9	不含 (none)
54	鉻酸鉻Dichromium tris(chromate)	24613-89-6	不含 (none)
55	酚酞Phenolphthalein	77-09-8	不含 (none)
56	4,4'-亞甲雙(2-氯苯胺) 或稱 2,2'-二氯-4,4'-亞甲基二苯胺 2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	不含 (none)
57	史蒂芬酸鉛 或稱 2,4,6-三硝基間苯二酚鉛Lead styphnate	15245-44-0	不含 (none)
58	疊氮化鉛Lead azide Lead diazide	13424-46-9	不含 (none)
59	鄰苯二甲酸二(2-甲氧基乙)酯Bis(2-methoxyethyl) phthalate	117-82-8	不含 (none)
60	甲醛與苯胺寡聚反應的產物(工業級MDA) Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	不含 (none)
61	4-三級辛基苯酚4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	不含 (none)
62	鉻酸五鋅八氫氧化物Pentazinc chromate octahydroxide	49663-84-5	不含 (none)
63	1,2-二氯乙烷1,2-dichloroethane	107-06-2	不含 (none)
64	砷酸鉛Trilead diarsenate	3687-31-8	不含 (none)
65	鄰-甲氧苯胺2-Methoxyaniline; o-Anisidine	90-04-0	不含 (none)
66	砷酸Arsenic acid	7778-39-4	不含 (none)

67	N,N-二甲基乙醯胺N,N-dimethylacetamide (DMAC)	127-19-5	不含 (none)
68	二苦味酸鉛Lead dipicrate	6477-64-1	不含 (none)
69	氫氧化鉻酸鋅鉀Potassium hydroxyoctaoxidizincatedi-chromate	11103-86-9	不含 (none)
70	矽酸鋁耐火陶瓷纖維Aluminosilicate Refractory Ceramic Fibres (RCF)	—	不含 (none)
71	二乙二醇二甲醚Bis(2-methoxyethyl) ether	111-96-6	不含 (none)
72	砷酸鈣Calcium arsenate	7778-44-1	不含 (none)
73	氧化鋯矽酸鋁耐火陶瓷纖維Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	—	不含 (none)

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Technical Data Sheet

Taisox 8001BL-Black

1. Product description

8001BL are an ethylene/butene copolymer. The trade name is TAISOX. This product manufactured by the CSTR slurry process. The copolymer designed for the extrusion of various pressure pipes.

According to ISO 12162:1995(E) is the **black** PE pipe grade TAISOX 8001BL classified PE 100 at 20°C and 50 years exceeds a MRS of 10Mpa. It provides good creep resistance, excellent ESCR, and high mechanical properties.

8001BL is recommended in the applications of potable water pipe, gas pipe, sewer & drain pipe, telecommunication system, industrial pipe, circular cages etc .

2. Typical properties

Properties	Units	Test Method	Typical Value
Melt Index MI _{2.16}	g/10min	ASTM D1238	0.05
Melt Index MI ₅	g/10min	ASTM D1238	0.23
Melt Index MI _{21.6}	g/10min	ASTM D1238	7.0
Density	g/cm ³	ASTM D1505	0.958
Thermal properties			
Melting point	°C	DSC	129
Brittleness point	°C	ASTM D746	<-70
Mechanical properties			
Tensile strength at yield	Kg/cm ²	ASTM D638	240
Tensile strength at break	Kg/cm ²	ASTM D638	360
Elongation at break	%	ASTM D638	850
Izod Impact Strength	Kg-cm/cm notch	ASTM D256	>30
Hardness	Shore D	ASTM D2240	64
ESCR	Hours	ASTM D1693	>1000
MRS	Mpa	ISO 9080	>10
Thermal stability(200°C)	min	ISO/TR 10837	>30

*Data shown are average values and should not be examined for specifications