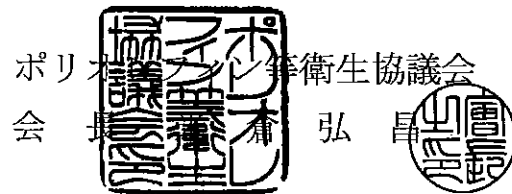


平成19年12月 6日  
07ポリ衛協確第 01898 号

ポリオレフィン等合成樹脂製食品容器包装等に関する自主基準

# A 確認証明書

住 所 東京都千代田区有楽町一丁目1番2号  
会社名 旭化成ケミカルズ株式会社  
申請者 代表取締役社長 藤原 健 嗣 殿  
会員番号 E026



上記の申請者に係る下記の登録番号製品について、ポリオレフィン等合成樹脂製食品容器包装等に関する自主基準に基づく確認証明書の交付規程第6条の規定に基づき、当協議会の自主基準に適合していることを確認したので証明する。

この証明書は、平成29年 9月30日 まで有効とする。

登録番号	[A]BZa-14039-L	分類記号	Ic-1-B-Za
品 名	ABS樹脂 (自然色)		
銘 柄 名	スタイラック™-ABS 321		
	スタイラック™-ABS 220		
	スタイラック™-ABS 121		
	スタイラック™-ABS 120		
	スタイラック™-ABS 026		
制限内容	Z 油性・水性 (PH5超) ・酸性 (PH5以下) 食品、酒類用の全てに適合 a 100℃以下に適合の場合 L 添加量制限のある添加物を含むもの		
摘 要	平成19年12月 6日 付新規登録 (新規)		

				High impact ←
Property	Standard	Unit	Conditions	321
<b>1. Rheological properties</b>				
Melt mass-flow rate	ISO 1133	g/10min	220°C,98N	8.0
Melt volume-flow rate	ISO 1133	cm <sup>3</sup> /10min	220°C,98N	8.5
<b>2. Mechanical properties</b>				
Tensile modulus	ISO 527-1	MPa	1mm/min	1700
Yield stress	ISO 527-1	MPa	50mm/min	35
Flexural modulus	ISO 178	MPa	2mm/min	1650
Flexural strength	ISO 178	MPa	2mm/min	51
Charpy notched impact strength	ISO 179	kJ/m <sup>2</sup>	23°C	35
			0°C	
			-30°C	
<b>3. Thermal properties</b>				
Vicat softening temperature	ISO 306	°C	Load: 50N	92
Temperature of deflection under load	ISO 75-1,2	°C	1.8MPa	75
Burning behaviour (N: unregistered)	ISO 1210	—		HB
	ISO 10351	—		N
<b>5. Other properties</b>				
Density	ISO 1183	g/cm <sup>3</sup>		1.04
Rockwell hardness	ISO 2939-2		R scale	89
<b>6. Properties not included in ISO10350</b>				
Rockwell hardness (2.5mm)	original		R scale	83
Shrinkage from mold dimensions	ASTM D955	%		0.4 - 0.6
UL class	UL94			1.5mm HB
Relative temperature index	UL746A	°C		60
Ball pressure temperature (registered number)	EAMC	°C		90
				B-1558
Tensile strength	ASTM D638	MPa (kg/cm <sup>2</sup> )	5mm/min	33 (340)
Flexural modulus	ASTM D790	MPa (kg/cm <sup>2</sup> )	3mm/min	1860 (19000)
Flexural strength	ASTM D790	MPa (kg/cm <sup>2</sup> )	3mm/min	52 (530)
Izod notched impact strength	ASTM D256	J/m (kg·cm/cm)	23°C	372 (38)
Vicat softening temperature	ASTM D1525	°C	9.8N	107
Temperature of deflection under load (6.4mm)	ASTM D648	°C	1.82MPa	80

\* The values in the above table are representative values obtained using the noted test methods.  
Please use these values as a reference when selecting the most suitable grade for each respective use.

## MATERIAL SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Acrylonitrile-butadiene-styrene terpolymer (ABS resin)  
TRADE NAME : STYLAC™-ABS  
Refer to the final page for grades applicable to this Data Sheet.  
GENERAL USE : Plastics articles for electric appliances  
MANUFACTURER :  
COMPANY NAME : ASAHI KASEI CHEMICALS CORPORATION  
ADDRESS : STYLAC Sales Department  
Hibiya-Mitsui Bldg. 1-2, Yurakucho 1-chome, Chiyoda-ku, Tokyo,  
100-8440, Japan  
Performance Resins Development Dept. STYLAC Group  
1-3-1, Yako, Kawasaki-ku, Kawasaki-city, Kanagawa,  
210-0863, Japan

EMERGENCY TELEPHONE NUMBER  
ASAHI KASEI CHEMICALS CORPORATION (Japan)  
Performance Resins Development Dept. STYLAC Group  
Telephone +81-44-271-2650  
8:30am-6pm Japan Time M-F

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product consists primarily of high molecular weight polymers which are not expected to be hazardous.

CHEMICAL NAME : Acrylonitrile-butadiene-styrene (ABS resin)  
COMPOSITION : ABS resin : Equal to or more than 95 %mass  
Additives : Equal to or less than 5 %mass

CHEMICAL OR STRUCTURAL FORMULA:  
ABS resin:  $[(C_3H_5)_a-(C_4H_6)_b-(C_3H_3N)_c]_x$

CAS No. : ABS resin: 9003-56-9

UN CLASSIFICATION & UN No.: Not applicable

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### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW:

Solid pellets with slight or no odor. Spilled pellets may create slipping hazard. Can burn in a fire emitting dense toxic smoke. Molten plastic can cause severe thermal burns. Fumes produced during melt processing may cause eye, skin and respiratory tract irritation. Secondary operations, such as grinding, sanding or sawing, can produce dust which may present an explosion or respiratory hazard.

POTENTIAL HEALTH EFFECTS:

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## MATERIAL SAFETY DATA SHEET

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### PRIMARY ROUTES OF EXPOSURE

EYE : Product may cause irritation or injury due to mechanical action.

SKIN : Product may cause irritation or rash due to mechanical action.

INGESTION : Not acutely toxic.

INHALATION: Pellet inhalation unlikely due to physical form.

### CHRONIC/CARCINOGENICITY

NTP : Not tested

OSHA : Not regulated

IARC : See 11. TOXICOLOGICAL INFORMATION

### MELT PROCESSING HEALTH EFFECTS:

Note : Molten plastic can cause severe burns.

Processing fumes may cause irritation to eyes, skin and respiratory tract, and in cases of severe over-exposure, nausea and headache.

### MEDICAL RESTRICTIONS:

Certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing fumes.

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## 4.FIRST AID MEASURES

EYE : Remove contact lens(es) at once unless the contact lens(es) sticks to eye-balls(s). Immediately flush the affected eye(s) well with a copious quantity of clean water for at least 15 minutes. Do not let the victim rub his/her eye(s) to prevent irritation and injury to cornea(s). Seek immediate medical attention.

SKIN CONTACT : Wash skin thoroughly with water, or lukewarm water and skin-care soap. For skin contact with fume condensate, immediately wash affected area thoroughly with soap and water. For molten plastic skin contact, cool rapidly with water, and immediately seek medical attention.

INGESTION : Not probable. If swallowed, seek medical attention.

INHALATION : Not likely to inhale pellets due to physical form. When gases and/or fumes generated from the molten resin are inhaled, remove the victim from the area to fresh air.

MELT PROCESSING: If molten plastic contacts skin, cool rapidly with water and immediately seek medical attention.

WARNING: Do not attempt removal of plastic without medical assistance.

Do not use solvent for removal.

If inhalation of processing fumes causes irritation, leave

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## MATERIAL SAFETY DATA SHEET

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contaminated area and breathe fresh air. If coughing, difficult breathing or any other symptoms develop, seek medical attention at once, even if symptoms develop at a later time.

For skin contact with fume condensate, immediately wash affected area thoroughly with soap and water. If irritation develops, seek medical attention.

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### 5. FIRE FIGHTING MEASURES

**FIRE FIGHTING** : Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water is the preferred extinguishing medium. This product will melt but will not be carried on the surface of water.

**EXTINGUISHING MEDIA:** Water spray or foam. Water-jet is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit reignition.

**HAZARDOUS COMBUSTION PRODUCTS:** Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, hydrogen cyanide and hydrocarbon fragments.

**FLASH POINT** : Not applicable

**LOWER FLAMMABLE LIMIT:** Not established

**UPPER FLAMMABLE LIMIT:** Not established

**CONDITIONS OF FLAMMABILITY:** Requires a continuous flame source to ignite.

#### EXPLOSION DATA

**IMPACT SENSITIVITY:** Not sensitive to mechanical impact.

**STATIC DISCHARGE** : See 7. HANDLING AND STORAGE

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### 6. ACCIDENTAL RELEASE MEASURES

To prevent the danger of slips and falls from pellets, sweep or gather up material and place in proper container for disposal or recovery. Immediately collect released resin to prevent environmental contamination.

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### 7. HANDLING AND STORAGE

**HANDLING** : Gases generated in the molding process may cause irritation to the skin and respiratory tract, and in cases of severe over exposure, nausea and headache. Prevent contact with skin and eyes. Use good industrial hygiene practices. Provide adequate ventilation.

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## MATERIAL SAFETY DATA SHEET

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Secondary operations such as grinding, sanding and sawing may produce a dust explosion hazards due to the electrostatic charges or electrical spark. Maintain good housekeeping activities to prevent dust accumulation, and employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

**STORAGE** : Store in a dry place away from excessive heat and sources of ignition. Avoid direct sunlight. Keep product away from electrostatic charge.

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### 8.EXPOSURE CONTROLS/PERSONAL PROTECTION

#### EXPOSURE GUIDELINE

For particulate

OSHA PEL : 15 mg/m<sup>3</sup>(Total dust), 5 mg/m<sup>3</sup>(Respirable fraction)  
ACGIH TLV-TWA(1997-1998) : 3 mg/m<sup>3</sup>(Respirable particulate)  
10 mg/m<sup>3</sup> (Inhalable particulate)

**ENGINEERING MEASURES**: In cases where possibilities of dust formation, gas generation, or vapor emission exist, provide local ventilation. Ventilation requirements must be locally determined to limit exposure to materials at their point of use.

#### PERSONAL PROTECTION:

**EYE/FACE** : Wear safety glasses or chemical goggles while using or handling this product. In addition, use full-face shield when cleaning processing fume condensates from hoods, duct and other surfaces.

**SKIN** : When handling pellets, avoid prolonged or repeated contact with skin. When melt processing product, wear long pants, long sleeves, well insulated gloves and face shield when applicable. Use appropriate protective clothing, including chemical resistant gloves, to prevent any contact with processing fume condensates.

**RESPIRATORY** : When processing fumes are not adequately controlled, use respirator approved for protection from organic vapors and acid gases. When dust or powder from secondary operations ( such as grinding, sanding or sawing) is not adequately controlled, use respirator approved for protection from dust.

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### 9.PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE** : Solid  
**ODOR AND APPEARANCE**: Plastic pellets with slight odor. Light yellow.(natural color)  
**BOILING POINT** : Not applicable  
**MELTING POINT** : Does not exhibit a sharp melting point, but softens gradually over a wide temperature range, between 130 deg.C(266 deg.F) and 150 deg.C(302 deg.F)

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## MATERIAL SAFETY DATA SHEET

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VAPOR PRESSURE (mmHg): Negligible  
VAPOR DENSITY (air=1): Not applicable  
DENSITY : 1.02 ~ 1.11 g/cm<sup>3</sup>  
WATER SOLUBILITY : Insoluble  
% VOLATILES : Negligible  
PH : Not applicable  
ODOR THRESHOLD : Not established  
EVAPORATION RATE : Negligible  
COEFFICIENT WATER/OIL DISTR: Not established

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### 10. STABILITY AND REACTIVITY

STABILITY : Stable under recommended conditions of storage and handling.

REACTIVITY : Not reactive under recommended conditions of handling, storage, processing and use. When heated to approximately 250 deg.C (482 deg.F) to 400 deg.C(751 deg.F), the resin begins to decompose and emit decomposition gases. Immediately cool down the molten resins, if necessary.

CONDITIONS TO AVOID: Do not exceed melt temperature recommendations in product literature. In order to avoid autoignition/hazardous decomposition of hot thick masses of plastic, purging should be collected in small, flat shapes or thin strands to allow rapid cooling in water. (See 8.EXPOSURE CONTROLS/PERSONAL PROTECTION section for respiratory protection advice.)

HAZARDOUS DECOMPOSITION: When ignited, carbon monoxide, carbon dioxide, hydrogen cyanide and small amounts of aromatic and aliphatic hydrocarbons are released.

AUTOIGNITION TEMPERATURE: 405 deg.C(761 deg.F)

FLAMMABILITY : Flammable

STORAGE STABILITY : Stable

REACTIVITY WITH WATER: None

OXIDIZING PROPERTY: None

SELF-REACTIVITY/POTENTIAL FOR EXPLOSION: None

DUST EXPLOSION : Data of Powder (less than 200 mesh)dust explosion  
Lowest limit of explosion: 60 g/m<sup>3</sup>  
The maximum pressure of explosion: 9.2 bar(g)

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### 11. TOXICOLOGICAL INFORMATION

EYE : Substance not considered primary eye irritant. However, product may cause irritation or injury due to mechanical action.

SKIN : Substance not considered primary skin irritant. However, product may cause irritation due to mechanical action.

ACUTE INHALATION : Processing fumes may cause irritation to eyes, skin and

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## MATERIAL SAFETY DATA SHEET

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respiratory tract, and in cases of severe over-exposure, nausea and headache.

ACUTE TOXICITY : Oral LD50(Rat) > 2,000 mg/kg estimated (ABS resin) The toxicological properties of this product have not been thoroughly investigated.

CHRONIC TOXICITY : Chronic pulmonary exposure may injure lungs.

CARCINOGENIC EFFECTS: Classified in Group 3 of IARC (not classifiable as to its carcinogenicity to humans.)

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### 12. ECOLOGICAL INFORMATION

GENERAL : Not expected to present any significant ecological problems.

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### 13. DISPOSAL CONSIDERATIONS

Comply with all national and local regulations. Do not release into sewers, ground or a body of water.

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### 14. TRANSPORT INFORMATION

Comply with all national and local regulations.

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T.): This product is not regulated by D.O.T..

CANADIAN TDG INFORMATION: This product is not regulated by TDG.

NOTE : Avoid water and careless handling to prevent damage to the container. Spilled pellets should be collected immediately to prevent the slippage.

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### 15. REGULATORY INFORMATION

Comply with all national and local regulations.

The information herein is presented in good faith and believed to be accurate as to the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another. Therefore it was not possible to check this material based on all federal or regional regulations. It is user's responsibility to confirm that this material complies with the applicable regulation in user's federal, state or provincial, and local laws. The following specific regulations are typical ones in US.

U.S. FEDERAL REGULATIONS

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**AsahiKASEI**  
**ASAHI KASEI CHEMICALS**

Page 7 of 8  
First issue: Oct. 1, 2003  
Revised: Feb. 7, 2007  
Trade name: STYLAC™-ABS  
MSDS No.: A01E1

**MATERIAL SAFETY DATA SHEET**

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OSHA HAZARD COMMUNICATION STANDARD: This product is not hazardous as defined by the OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on TSCA inventory.

CERCLA/SUPERFUND, 40 CFR 117,302: This product contains no Reportable Quantity (RQ) Substance.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under SECTION 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: Not to have met any hazard category.

SARA 313 INFORMATION: This product contains no substance subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372:

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**16. OTHER INFORMATION**

MSDS STATUS : Revised Section Grades.

**NOTE**

: The information furnished in this Material Safety Data Sheet is accurate to the best knowledge of Asahi Kasei Chemicals Corporation ("Asahi") as of the date of its publication. This MSDS is not intended to create any liability of any kind on the part of Asahi. In no event will Asahi be responsible for any death, injury or damage of any nature resulting from the use of, reliance upon, or misuse of the MSDS or material to which it refers. The data on this sheet relates only to the specific material designated herein. No representations or warranties, whether express or implied, of merchantability, fitness for particular purpose, or any other nature, are made hereunder. This MSDS is not intended as a recommendation for uses that infringe valid patents or extend licenses under valid patents.

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**MATERIAL SAFETY DATA SHEET**

[Grades]

026	120	120B	120J	121	121B
121MF	161	190	190F	190H	191
191F	191H	220	220B	321	A1460
A2041	A3041	A3211	A3241	A3291	A3510
A3511	A3771	A3841	A3902	A3941	A3981
A4102	A4130	A4221	A4222	A4510	A4521
A4532	A4570	A4571	A4572	A4597	A4721
A4755	A4950	A4974	A4999	A5011	A5231
A5423	A5580	A5731	A5741	A5744	A5761
A5971	A6271	HAK03	ID51	ID510	ID80
ID20	ID21F	ID25	ID30	ID310	ID31J
IM05	IM05S	IM10	IM10S	IM15	IM15S
IM18	IM20	IM20S	IM30	IX210	LK204
U101	A4331	ID610	IM070		