AsahiKASEI

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY INDENTIFICATION

Product Name: ASACLEAN® U, UE, SA, E, EX, newE, newEX, GLOBAL, CA, CG, C
General Use: Purging Compound for plastic injection molding machine and extruder
Product Description: Blend of additives in styrenic resin
MSDS Number: ASIA-S.-005

MANUFACTURER

Company Name: Asahi Kasei Chemicals Corporation
Address: Asaclean Sales & Marketing Department
1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101, Japan
Telephone No.: +81-3-3296-3274

EMERGENCY TELEPHONE NUMBER

Asahi Kasei Chemicals Corporation
Telephone No.: +81-44-271-2503 (Asaclean Technology Group)

2. COMPOSITION/INFORMATION ON INGREDIENTS

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

Composition: *1;Refer to table 1 on Page 5 of 5
Cas No.: Registered as each composition

3. HAZARDS INDENTIFICATION

EMERGENCY OVERVIEW:

Pellets with slight or no odor. Spilled pellets create slipping hazard. Product may be flammable when exposed to constant flame or heat. When product burns, creates dense toxic vapors, gases or fumes. Molten plastic can cause severe thermal burns.

NOTE: 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:

INHALATION: Product inhalation unlikely is due to physical form.
EYES: Product may cause irritation or injury due to mechanical action.
SKIN: Product not likely to cause skin irritation.
INGESTION: Not acutely toxic

POTENTIAL ENVIRONMENTAL EFFECTS:

CHRONIC TOXICITY / CARCINOGENICITY
NTP: Not Tested
OSHA: Not Regulated
IARC: Classified in Group 3 as styrenic (not classifiable as to its carcinogenicity to humans.)

4. FIRST AID MEASURES

INHALATION: Pellets not likely to be inhaled due to physical form. When gas and/or fumes generated from the molten plastics is inhaled, remove the victim from the area to fresh air. For processing fume inhalation irritation, leave contaminated area and breathe fresh air. Seek immediately medical attention.

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

SKIN: Wash affected area thoroughly with water. For molten plastic skin contact or skin contact with fume condensate, immediately wash thoroughly with soap and water. If

irritation develops, seek medical attention.

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

PROTECTION TO FIRST-AIDERS

Molten or hot plastic: Wear long pants, long sleeves, well insulated and impervious gloves and face shield.

Inhalation: Use appropriate respirator for protection from organic vapors and acid gases.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: FLASH POINT: Not applicable
LOWER FLAMMABLE LIMIT: Not applicable
UPPER FLAMMABLE LIMIT: Not applicable
EXPLOSION DATA
IMPACT SENSITIVITY: Not sensitive to mechanical impact
STATIC DISCHARGE: See 7. HANDLING AND STORAGE

EXTINGUISHING MEDIA: Water spray and foam. Water and water-jet are the best extinguishing media. Carbon dioxide and dry chemical may permit re-ignition because of their lack of cooling capacity.

FIRE FIGHTING INSTRUCTIONS: Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, hydrogen cyanide and small amount of aromatic and aliphatic hydrocarbons. Approved pressure demand breathing apparatus and protective clothing should be used for all fires.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL& WATER SPILL: Product is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. To prevent the danger of slips or falls, sweep or gather up product and place in proper container for disposal or recovery.

7. HANDLING AND STORAGE

HANDLING: Should process this material under the recommended temperature range (*2;Refer to Table 1 on Page 5 of 5) specified in "ASACLEAN® Technical Information". Avoid long retention at the temperature over 300°C for any extended time (over 30 minutes).

Long retention at such high temperature will cause liquefaction and generate large quantity of gases. 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.

Secondary operations such as grinding, sanding or sawing may produce a dust explosion hazard due to electrostatic charge or electrical spark. Use aggressive housekeeping activities to prevent dust accumulation. 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 flame. Avoid direct sunlight. Keep material away from electrostatic charge.

NOTE: Product has been designed and tested for purging and cleaning of injection molding machines and extruders, and no other use nor application is recommended.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES: Not established

EXPOSURE CONTROLS

Occupational Exposure Controls

Engineering Controls: In cases where possibilities of dust formation, gas generation, or vapor emission exist, provide local ventilation.

Personal Protection
Respiratory Protection: When processing fumes are not adequately controlled, use appropriate respirator for protection from organic vapors and acid gases. When dust or powder from secondary operations, (such a grinding, sanding, or sawing) is not adequately controlled, use appropriate respirator for protection from dust.

Hand Protection: During melt processing, well insulated and impervious gloves.

Eye Protection: Wear safety glasses or chemical goggles while using or handling product. In addition, use full-face shield when cleaning processing fume condensates.

Skin Protection: When handling pellets, avoid prolonged or repeated contact with skin for glass-filled grades (EX, newEX, CG), it might cause irritation. During melt processing, wear long pants, long sleeves, well insulated and impervious gloves and face shield.

Environmental Exposure Controls

Particulates not otherwise classified

OSHA PEL: 15 mg/m^3 (Total dust), 5 mg/m^3 (Respirable fraction)

ACGIH TLV-TWA (2001): 10 mg/m^3 (Inhalable particulate), 3mg/m^3 (Respirable particulate)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid and light yellow
Odor:	Slight or no odor
pH:	Not Applicable
Melting Point/Melting Range:	Does not exhibit a sharp melting point, but softens gradually over a wide temperature range between 130℃(270°F) and 150℃(300°F).
Decomposition Temperature:	About 360℃
Auto Ignition Temperature:	*3;Refer to Table 1 on Page 5 of 5.
Flammability:	See **3. HAZARDS IDENTIFICATION (EMERGENCY OVERVIEW)**.
Explosive Properties:	
Specific Gravity:	*4;Refer to Table 1 on Page 5 of 5.
Solubility:	Water; Insoluble, Solvent; Methyl ethyl ketone, Cyclohexanone

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: In order to avoid auto-ignition / hazardous decomposition of hot thick masses of plastic, purgings should be collected in small, flat shapes or thin strands to allow for rapid cooling in water.

STABILITY: Stable under recommended conditions of storage.

MATERIALS TO AVOID: None

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS:

May include and not limited to: carbon monoxide, carbon dioxide, hydrogen cyanide and small amount of aromatic and aliphatic hydrocarbons.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	LD50 (Rat) >2,000mg/kg (polystyrene for product)
Eye Irritation:	Product is not considered primary eye irritant.
Skin Irritation:	Product is not considered primary skin irritant.
Sensitization:	Not Available
Mutagenicity:	Not Available
Carcinogenicity:	Classified in Group 3 of IARC as styrenic resin (not classifiable as to its carcinogenicity to humans).

12. ECOLOGICAL INOFORMATION

ECOTOXICITY: Not expected to be acutely toxic, but pellets, if ingested by waterfowl or aquatic life, may mechanically cause adverse effects.

PERSISTENCE AND BIODEGRADABILITY: Not Available

BIOACCUMULATIVE POTENTIAL: Not Available

13. DISPOSAL CONSIDERATIONS

Comply with all national and local regulations.

Do not dump this product into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION

Comply with all national and local regulations.

LAND TRANSPORT:

ADR, RID

Class:	Not applicable
Packing Group (PG):	Not applicable
UN Number:	Not applicable
Proper Shipping Name:	ASACLEAN (Purging Compound)

SEA TRANSPORT:

IMDG

Class:	Not applicable
Packing Group(PG):	Not applicable
UN Number:	Not applicable
Proper Shipping Name:	ASACLEAN (Purging Compound)

AIR TRANSPORT:

ICAO/IATA

Class:	Not applicable
Packing Group (PG):	Not applicable
UN Number:	Not applicable
Proper Shipping Name:	ASACLEAN (Purging Compound)

15. REGULATORY INFORMATION

Comply with all national and local regulations.

16. OTHER INFORMATION

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Asahi Kasei Chemicals Corporation. It relates only to the specific product designated herein, and does not relate to use in combination with any other material or in any process. Asahi Kasei Chemicals Corporation assumes no legal responsibility for use of or reliance upon this information.

MATERIAL SAFETY DATA SHEET

(Table 1)

Type	Composition *1		Recommended temp. range *2	Auto-ignition temp. *3	Specific Gravity *4
U	Styrenic resin Additives	60%wt 40%wt	180℃～360℃	410℃	1.18
UE	Styrenic resin Additives	65%wt 35%wt	180℃～300℃	410℃	1.30
SA	Styrenic resin Additives	85%wt 15%wt	180℃～360℃	410℃	1.04
E	Styrenic resin Additives	95%wt 5%wt	160℃～270℃	400℃	1.06
EX	Styrenic resin Glass fiber Additives	55%wt 40%wt 5%wt	200℃～360℃	410℃	1.38
newE	Styrenic resin Additives	95%wt 5%wt	160℃～270℃	400℃	1.06
newEX	Styrenic resin Glass fiber Additives	45%wt 50%wt 5%wt	200℃～360℃	410℃	1.48
GLOBAL	Styrenic resin Additives	60%wt 40%wt	180℃～360℃	410℃	1.19
CA	Styrenic resin Additives	60%wt 40%wt	180℃～300℃	400℃	1.42
CG	Styrenic resin Glass fiber Additives	60%wt 20%wt 20%wt	200℃～330℃	400℃	1.39
C	Styrenic resin Additives	40%wt 60%wt	180℃～360℃	400℃	1.63

RECORDS OF REVISION

Feb. 10, 2005: Overall revised and added new grade “CA&CG”

Aug. 11, 2006: Added new grade “newEX”

Apr. 17, 2007: Added new grade “newE”

Aug. 28, 2007: Added new grade “C” and deleted grade”SV”

Jun. 9, 2008: Changed manufacturer’s address