

SAS 60E-3

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 04/28/2016

Supersedes: 10/15/2015

Version: 3.0

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

1.1. Product identifier

Product name : SAS 60E-3

Product form : Mixture

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

Use of the substance/mixture : Insulating Oil for High-voltage Capacitors

1.3. Details of the supplier of the safety data sheet

JX NIPPON CHEMICAL TEXAS INC.

10500 Bay Area Blvd.

Pasadena, Texas 77507

MRoot@jxncti.com

1.4. Emergency telephone number

Emergency number : 1-703-527-3887 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Inhalation) H332

Skin Irrit. 2 H315

Asp. Tox. 1 H304

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

GHS08

GHS09

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H332 - Harmful if inhaled

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P261 - Avoid breathing mist, vapours

P264 - Wash hands, forearms and face thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

P280 - Wear eye protection, face protection, protective clothing, protective gloves

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor

P302+P352 - If on skin: Wash with plenty of soap and water

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P312 - Call a doctor, a POISON CENTER if you feel unwell

P321 - Specific treatment (see first aid instructions on this label)

P331 - Do NOT induce vomiting

P332+P313 - If skin irritation occurs: Get medical advice/attention

P362 - Take off contaminated clothing and wash before reuse

P391 - Collect spillage

P405 - Store locked up

P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

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SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
(Phenylethyl)benzene	(CAS No) 38888-98-1 / 612-00-0	50 - 62
Benzyltoluene	(CAS No) 27776-01-8	36 - 50
Epoxide*	(CAS No) 2386-87-0	1 - 5
Benzene, ethylenated, residues**	(CAS No) 68987-42-8	1 - 5
Polyethylbenzene**	(CAS No) 68608-82-2	1 - 5
*7-Oxabicyclo [4.1.0] hept-3yl methyl-7-oxabicyclo [4.1.0] heptane-3-carboxylate subset of polyethylbenzene residues having a boiling point range of approximately 525-555°F (274-291°C) <5%		
**Occuring as impurities		

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If breathing is difficult, supply oxygen. If breathing has stopped, give artificial respiration.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : May be fatal if swallowed and enters airways. Causes skin irritation. Harmful if inhaled.
- Symptoms/injuries after inhalation : Harmful if inhaled.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry powder. Water fog.
- Unsuitable extinguishing media : Foam. Water or foam may cause frothing if it gets below the surface of the liquid and turns to steam.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Heating may cause a fire.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

- Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

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6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak if safe to do so. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up : Exclude sources of ignition and ventilate the area. Wear suitable protective clothing. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Avoid breathing dust, mist or spray. Provide local exhaust or general room ventilation. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. Do not attempt to clean. Empty drums should be completely drained and properly bunged.
Storage conditions : Store in a well-ventilated place. Keep cool. Keep the container tightly closed. Keep only in original container. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzyltoluene (27776-01-8)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
(Phenylethyl)benzene (38888-98-1)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Epoxide (2386-87-0)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Benzene, ethylenated, residues (68987-42-8)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established
Polyethylbenzene (68608-82-2)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

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Personal protective equipment : Gloves. Protective goggles. Respiratory protection of the dependent type.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment with gas filter (type A2). Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Non-viscous liquid.
Color	: Clear.
Odor	: aromatic.
Odor Threshold	: No data available
pH	: Neutral
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: < -65 °C (-85 °F)
Freezing point	: No data available
Boiling point	: 260 - 287 °C (500 - 549 °F) ASTM D 86
Flash point	: 132 °C (270 °F) (closed cup)
Auto-ignition temperature	: 464 °C (842 °F) (estimated)
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.0138 kPa @ 38 °C (100 °F)
Relative vapour density at 20 °C	: 6.3 (Air = 1)
Relative density	: 1 (Water = 1)
Solubility	: Water: 5 ppm
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.6 - 4.2 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

Strong oxidizing materials may ignite this material.

10.4. Conditions to avoid

Avoid contact with : Incompatible materials.

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10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Carbon monoxide. Asphyxiants.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation: Harmful if inhaled. Inhalation:dust/mist: Not classified.

SAS 60E-3	
LD50 oral rat	2700 mg/kg (14 days; male); 2200 mg/kg (14 days; female)
LD50 dermal rat	> 2000 mg/kg

Benzene, methyl(phenylmethyl)- (27776-01-8)	
LD50 oral rat	3015 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

SAS 60E-3	
Additional information	NOEL of 50 (28 days) in rats (OECD 407)

Skin corrosion/irritation	: Causes skin irritation. (Moderate skin irritant in rabbit test) pH: Neutral
Serious eye damage/irritation	: Not classified (Minimal irritation in rabbit test) pH: Neutral
Respiratory or skin sensitisation	: Not classified. (Buehler Test (Guinea Pig) - Non-sensitizing)
Germ cell mutagenicity	: Not classified (Negative for mutagenicity with and without metabolic activation in an Ames test)
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.
Symptoms/injuries after inhalation	: Harmful if inhaled.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Direct contact with the eyes is likely to be irritating.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

*All toxicological data is based on analogous product (SAS-40E)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

SAS 60E-3	
LC50 fishes 1	8.4 mg/l (96 h) Brachidanio rerio OECD 203
1,1'-diphenylethane	
EC50 Daphnia 1	> 5 mg/l (48 h) EPA 600/4-90/027
Benzyltoluene	
EC50 Daphnia 2	2.4 mg/l (48 h) EPA 600/4-90/027

12.2. Persistence and degradability

SAS 60E-3	
Persistence and degradability	This material is bio-degradable at aerobic conditions. 65% was degraded for 45 days.
Chemical oxygen demand (COD)	2.69 g O ₂ /g substance

12.3. Bioaccumulative potential

SAS 60E-3	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

SAS 60E-3	
Ecology - soil	No information available.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Transport by sea

- Transport document description : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Contains: (Phenylethyl)benzene), 9, III, MP
- UN-No. (IMDG) : 3082
- Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains (phenylethyl) benzene)
- Class (IMDG) : 9 - Miscellaneous dangerous substances and articles

Hazard labels (IMDG)



Packing group (IMDG) : III - substances presenting low danger

Air transport

- Transport document description : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Contains: (Phenylethyl)benzene), 9, III, MP
- UN-No.(IATA) : 3082
- Proper Shipping Name (IATA) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains (phenylethyl) benzene)
- Class (IATA) : 9 - Miscellaneous Dangerous Goods

Hazard labels (IATA)



Packing group (IATA) : III - Minor Danger

Other information : Per IATA special provision A197, UN3082 substances may be shipped as "not restricted" provided that the net quantity in any receptacle does not exceed 5 kg or 5L and the packaging used meets defined standards.

SECTION 15: Regulatory information

15.1. US Federal regulations

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All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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15.2. International regulations

No additional information available.

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

SECTION 16: Other information

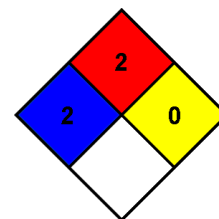
- Indication of changes : Revision 3.0
- Revision date : 04/28/2016
- Other information : Author: BCS.

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- NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
- NFPA fire hazard : 2 - Must be moderately heated or exposed to relatively high temperature before ignition can occur.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

- Health : 2
- Flammability : 2
- Physical : 0
- Personal Protection :

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product