

MATERIAL SAFETY DATA SHEET

INEOS ABS

Ineos ABS (USA) Corporation
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Addyston, OH 45001
USA

TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300
INTERNATIONAL: (703) 527-3887

NON-TRANSPORTATION

Emergency Phone: 513-467-2400
Information Phone: 877-233-9227

1. Product and Company Identification

Product Name: LUSTRAN ABS 552 000000
Material Number: 3538846
Chemical Family: Thermoplastic Polymer
Chemical Name: Acrylonitrile/Butadiene/Styrene Terpolymer
Synonyms: ABS, LTD, Q215
Formula: Not applicable--polymeric material

2. Hazards Identification

Emergency Overview

CAUTION! Color: Natural **Form:** solid Pellets **Odor:** Slight, Sweet, Aromatic.
Melted product is flammable and produces intense heat and dense smoke during burning.
Irritating gases/fumes may be given off during burning or thermal decomposition. May
cause mechanical irritation (abrasion). Causes a slipping hazard if spilled. Contact with
hot material will cause thermal burns.

Potential Health Effects

Primary Routes of Entry: Inhalation, Skin Contact, Eye Contact
Medical Conditions Aggravated by Exposure: Respiratory disorders, Eye disorders, Skin disorders

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

Skin

Acute Skin
For Product: LUSTRAN ABS 552 000000
Contact with heated material can cause thermal burns.

Eye

Acute Eye
For Product: LUSTRAN ABS 552 000000

Material Name: LUSTRAN ABS 552 000000 Article Number: 3538846

May cause mechanical irritation.

General Effects of Exposure

Acute Effects of Exposure

For Product: LUSTRAN ABS 552 000000

Gases and fumes evolved during the thermal processing or decomposition of this material may irritate the eyes, skin or respiratory tract.

Chronic Effects of Exposure

For Product: LUSTRAN ABS 552 000000

Not expected to cause any adverse chronic health effects.

Carcinogenicity:

Styrene

IARC - Overall evaluation: 2B Possible carcinogen.

IARC - Evidence of carcinogenicity in animals: Limited data.

IARC - Evidence of carcinogenicity in humans: Limited data.

3. Composition/Information on Ingredients

Hazardous Components

The following potentially hazardous ingredient(s) are used to formulate this product. As supplied, the ingredient(s) are bound in the polymer matrix. Because they are bound in the matrix, they are not expected to create any unusual hazards when handled and processed according to good manufacturing and industrial hygiene practices and the guidelines provided in this MSDS.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.25%	Styrene	100-42-5

4. First Aid Measures

Eye Contact

In case of contact, flush eyes with plenty of lukewarm water.

Skin Contact

In case of skin contact, wash affected areas with soap and water. Get medical attention if thermal burn occurs.

Inhalation

If inhaled, remove to fresh air.

Ingestion

Get medical attention.

5. Fire-Fighting Measures

Suitable Extinguishing Media: water, foam, dry chemical, carbon dioxide (CO2)

Special Fire Fighting Procedures

Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes.

Unusual Fire/Explosion Hazards

Toxic and irritating gases/fumes may be given off during burning or thermal decomposition. Dust may form explosive mixtures with air.

6. Accidental release measures

Spill and Leak Procedures

If molten, allow material to cool and place into an appropriate marked container for disposal.

7. Handling and Storage

Storage Temperature:

maximum: 82 °C (179.6 °F)

Storage Period

Not Established

Handling/Storage Precautions

Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. Avoid breathing dust.

Further Info on Storage Conditions

Protect equipment (e.g. storage bins, conveyors, dust collectors) with explosion vents.

8. Exposure Controls / Personal Protection

Styrene (100-42-5)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 20 ppm

US. ACGIH Threshold Limit Values

Short Term Exposure Limit (STEL): 40 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Time Weighted Average (TWA): 100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Ceiling Limit Value: 200 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Maximum concentration: 600 ppm (5 minutes in any 3 hours)

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

Industrial Hygiene/Ventilation Measures

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines.

Respiratory Protection

Although no exposure limit has been established for this product, the OSHA PEL for Particulates Not

Otherwise Regulated (PNOR) of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction is recommended. In addition, the ACGIH recommends 3 mg/m³ - respirable particles and 10 mg/m³ - inhalable particles for Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS).

Hand Protection

Wear heat resistant gloves when handling molten material.

Eye Protection

safety glasses with side-shields.

Skin and body protection

No special skin protection requirements during normal handling and use.

Additional Protective Measures

Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Purgings should be collected as small flat thin shapes or thin strands to allow for rapid cooling. Fumes or vapors emitted from the hot melted plastic during converting operations may condense on cool overhead metal surfaces or exhaust ducts. The condensate, usually in the form of a soft, grease-like semi-solid may contain substances which can be irritating or toxic. Wear rubber gloves when cleaning contaminated surfaces.

9. Physical and chemical properties

Form:	solid
Appearance:	Pellets
Color:	Natural
Odor:	Slight, Sweet, Aromatic
pH:	Not Applicable
Boiling Point/Range:	Not Applicable
Flash Point:	388 - 400 °C (730.4 - 752 °F)
Lower Explosion Limit:	Not Established
Upper Explosion Limit:	Not Established
Vapor Pressure:	Not Applicable
Density:	not applicable
Specific Gravity:	Approximately 1.05
Solubility in Water:	Insoluble
Autoignition Temperature:	495 - 510 °C (923 - 950 °F)
Decomposition Temperature:	approximately 260 °C (500 °F)
Softening Point:	82 - 107 °C (179.6 - 224.6 °F)
Bulk Density:	600 - 700 kg/m ³

10. Stability and Reactivity

Hazardous Reactions

Hazardous polymerization does not occur.

Stability

Stable

Materials to avoid

None known.

Conditions to avoid

None known.

Hazardous decomposition products

By Fire and Thermal Decomposition: Carbon Dioxide; Water; Styrene; Acrylonitrile; hydrogen cyanide; Carbon monoxide, hydrocarbons

11. Toxicological Information**Toxicity Data for LUSTRAN ABS 552 000000****Toxicity Note**

Toxicity data is based on similar ABS resins.

Skin Irritation

rabbit, Non-irritating

Eye Irritation

rabbit, Draize, Slightly irritating

Other Relevant Toxicity Information

Styrene is slightly toxic to practically nontoxic in oral feeding studies (rats) and skin applications studies (rabbits). Repeated inhalation studies in rats for 3 weeks reported effects suggestive of a hearing impairment. Repeated inhalation exposures produced lung irritation in guinea pigs and organ weight changes in rats. An oral study in mice reported slight increases in lung tumors and lymphomas, but the National Cancer Institute reported no convincing evidence for carcinogenicity in repeated oral studies with rats and mice. In standard mutagenicity tests, both positive and negative genetic changes were reported. No birth defects occurred in rats given styrene orally; some toxic effects on the fetus were noted in a limited inhalation study using repeated, extremely high doses.

Toxicity Data for Acrylonitrile/Butadiene/Styrene Terpolymer**Acute Oral Toxicity**

LD50: > 5,000 mg/kg (Rat)

Acute dermal toxicity

LD50: > 2,000 mg/kg (rabbit)

Estimated Value

Skin Irritation

rabbit, Draize, Non-irritating

Eye Irritation

rabbit, Slightly irritating

Sensitization

dermal: non-sensitizer (Guinea pig, Buehler Test)

Toxicity Data for Corn Oil**Acute Oral Toxicity**

LD50: >10 mL/kg (Rat)

Toxicity Data for Styrene**Acute Oral Toxicity**

LD50: 1,000 mg/kg (Rat)

Acute Inhalation Toxicity

LC50: 11.8 mg/l, 4 hrs (Rat)

Acute dermal toxicity

LD50: > 20,000 mg/kg (rabbit)

Skin Irritation

rabbit, Draize Test, Moderately irritating

Eye Irritation

rabbit, Draize, Severely irritating

Sensitization

dermal: non-sensitizer (guinea pig, Maximisation Test (GPMT))

Repeated Dose Toxicity

6 months, inhalation: NOAEL: 6.3 mg/kg, (Monkey, Male/Female, daily)

28 Days, dermal: NOAEL: < 500 mg/kg, (Rat, male, daily)

13 weeks, inhalation: NOAEL: 0.565 mg/l, (Rat, Male/Female, daily)

Mutagenicity

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Sister Chromatid Exchange: positive (human lymphocytes, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Cytogenetic assay: positive (Rat,)

Drosophila SLRL test: positive (Drosophila melanogaster,)

Carcinogenicity

Styrene was tested for carcinogenicity in rats in four gavage studies, one drinking-water study and two inhalation studies. Overall, there was no reliable evidence for an increase in tumour incidence in rats.

Styrene was tested for carcinogenicity in mice in one inhalation study and four oral gavage studies. In the inhalation study, there was an increase in the incidence of pulmonary adenomas and only an increase in that of carcinomas in the high-dose group. Two of the gavage studies were negative and the other two were considered inadequate for an evaluation of the carcinogenicity of styrene. A screening study by intraperitoneal administration also did not find an increase in tumour incidence or multiplicity in mice.

The increased risks for lymphatic and haematopoietic neoplasms observed in some epidemiological studies are generally small, statistically unstable and are not very robust.

Toxicity to Reproduction/Fertility

Three generation study, oral, daily, (Rat, Male/Female) NOAEL (parental): 250 ppm, NOAEL (F1): 125 ppm, NOAEL (F2): 125 ppm

No effects on Reproductive parameters observed at doses tested.

Other method, inhalation, daily, (rabbit, female) NOAEL (parental): 2.6 mg/l, NOAEL (F1): 2.6 mg/l,

Developmental Toxicity/Teratogenicity

Rat, female, inhalation, gestation, NOAEL (teratogenicity): > 600 ppm, NOAEL (maternal): < 300 ppm

No Teratogenic effects observed at doses tested.

rabbit, female, inhalation, gestation, NOAEL (teratogenicity): > 600 ppm, NOAEL (maternal): > 600 ppm

Fetotoxicity seen only with maternal toxicity.

12. Ecological Information**Ecological Data for Acrylonitrile/Butadiene/Styrene Terpolymer****Biodegradation**

Not readily biodegradable.

Bioaccumulation

Does not bioaccumulate.

Acute and Prolonged Toxicity to Fish

LC50: 18 mg/l (Common Carp (Cyprinus carpio), 96 hrs)

Ecological Data for Styrene**Biodegradation**

aerobic, 71 %, Exposure time: 28 d

Biological Oxygen Demand (BOD)

5 Days, 2.46 mg/l

Chemical Oxygen Demand (COD)

2,800 - 2,880 mg/g

Theoretical Biological Oxygen Demand (ThBOD)

3.07 mg/l

Bioaccumulation

Carp, 13.5 BCF

Acute and Prolonged Toxicity to Fish

LC50: 9 mg/l (Sheepshead minnow (Cyprinodon variegatus), 96 hrs)

LC50: 29 - 59.3 mg/l (Fathead minnow (Pimephales promelas), 96 hrs)

LC50: 25 mg/l (Bluegill (Lepomis macrochirus), 96 hrs)

LC50: 2.4 - 4.1 mg/l (Rainbow trout (Salmo gairdneri), 96 hrs)

Acute Toxicity to Aquatic Invertebrates

EC50: 4.7 - 23 mg/l (Water flea (Daphnia magna), 48 hrs)

Toxicity to Aquatic Plants

EC50: 1.4 mg/l, (Green algae (Selenastrum capricornutum), 72 hrs)

Toxicity to Microorganisms

EC50: approximately 500 mg/l, (Activated sludge microorganisms, 30 min)

EC50: 5.5 mg/l, (Photobacterium phosphoreum, 5 min)

EC50: 72 mg/l, (Pseudomonas putida, 16 hrs)

13. Disposal considerations**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state, provincial, and/or local environmental control laws.

14. Transportation information**Land transport (DOT)**

Non-Regulated

Sea transport (IMDG)

Material Name: LUSTRAN ABS 552

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Article Number: 3538846

Non-Regulated

Air transport (ICAO/IATA)
Non-Regulated

15. Regulatory Information

United States Federal Regulations

OSHA Hazcom Standard Rating: Non-Hazardous

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302):

Components

None

SARA Section 311/312 Hazard Categories:

Non-hazardous under Section 311/312

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**

Components

None

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III
Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:**

Components

Styrene

**US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes
and Appendix VIII Hazardous Constituents (40 CFR 261):**

If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40 CFR 261.20-24)

State Right-To-Know Information

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

The concentrations reported below in units of parts per million (ppm) or parts per billion (ppb) are maximum values.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Acrylonitrile/Butadiene/Styrene Terpolymer	9003-56-9
>=1%	Corn Oil	8001-30-7

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.25%	Styrene	100-42-5

Pennsylvania Right to Know Special Hazard Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.01%	Acrylonitrile	107-13-1

MA Right to Know Extraordinarily Hazardous Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.25%	Styrene	100-42-5
<=0.01%	Acrylonitrile	107-13-1

California Prop. 65:

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
<=0.01%	Acrylonitrile	107-13-1

16. Other Information

NFPA 704M Rating

Health	0
Flammability	1
Reactivity	0
Other	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS Rating

Health	0
Flammability	1
Physical Hazard	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

* = Chronic Health Hazard

Ineos ABS (USA) Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Ineos ABS (USA) Corporation as a customer service.

Contact Person: Product Safety Department
Telephone: (800) LANXESS
MSDS Number: R302571
Version Date: 10/08/2008
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