

Benzoflex(TM) 9-88 Plasticizer

Version 1.1 PRD Revision Date: 08/27/2018 SDS Number: 150000071434 Date of last issue: -
SDSUS / Z8 / 0001 Date of first issue: 09/06/2016

SECTION 1. IDENTIFICATION

Product name : Benzoflex(TM) 9-88 Plasticizer
Product code : 32601-00, P3260100, P3260101, P3260109, E3260101,
P3260104, P3260103, P3260102, N3260103

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company
Address : 200 South Wilcox Drive
Kingsport TN 37660-5280
Telephone : (423) 229-2000
Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Plasticizer
Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Ingredients**

Chemical name	CAS-No.	Concentration (% w/w)
benzoate esters	proprietary	100

SECTION 4. FIRST AID MEASURES

If inhaled : Move to fresh air.
Treat symptomatically.
Get medical attention if symptoms occur.
In case of skin contact : Wash off with soap and water.
Get medical attention if symptoms occur.

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Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	08/27/2018	150000071434	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	

In case of eye contact	:	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Seek medical advice.
If swallowed	:	Seek medical advice.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray to extinguish. Dry chemical Carbon dioxide (CO2) Foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	None known.
Further information	:	None known.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear appropriate personal protective equipment. Avoid release to the environment.
Environmental precautions	:	Avoid release to the environment.
Methods and materials for containment and cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	None known.
Advice on safe handling	:	Use only with adequate ventilation.
Conditions for safe storage	:	Keep container tightly closed.

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1.1	08/27/2018	150000071434	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection

Remarks : Wear suitable gloves.

Eye protection : Wear safety glasses with side shields (or goggles).

Protective measures : Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Ensure that eye flushing systems and safety showers are located close to the working place.
Use personal protective equipment as required.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless, light yellow

Odor : mild

Odor Threshold : not determined

pH : not determined

Melting point/freezing point : -4 °F / -20 °C

Boiling point/boiling range : 657 °F / 347 °C

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Flash point	:	360 °F / 182 °C
		Method: Seta closed cup
Evaporation rate	:	not determined
Flammability (solid, gas)	:	Not applicable
Self-ignition	:	Not applicable
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapor pressure	:	<0.00001 torr @ 20°C
Relative vapor density	:	not determined
Relative density	:	1.12 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	negligible
Partition coefficient: n-octanol/water	:	log Pow: 3.9 (68 °F / 20 °C)
Autoignition temperature	:	not determined
Decomposition temperature	:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Viscosity		
Viscosity, dynamic	:	111 mPa.s (68 °F / 20 °C)
Viscosity, kinematic	:	105 mm ² /s (77 °F / 25 °C)
Explosive properties	:	Not classified
Oxidizing properties	:	Not classified
Surface tension	:	59 mN/m, 68 °F / 20 °C

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.

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Conditions to avoid	:	Incompatible materials
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO ₂) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Not classified based on available information.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Ingredients:**benzoate esters:**

Acute inhalation toxicity	:	LC50 (Rat): > 200 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 Dermal (Rat): > 2,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Ingredients:**benzoate esters:**

Species	:	Rabbit
Exposure time	:	4 h
Result	:	none

Serious eye damage/eye irritation

Not classified based on available information.

Ingredients:**benzoate esters:**

Species	:	Rabbit
Result	:	slight

Respiratory or skin sensitization**Skin sensitization**

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NOAEL : 1,000 mg/kg
Application Route : in feed
Exposure time : 90 d

Aspiration toxicity

Not classified based on available information.

Information on likely routes of exposure**Product:**

Inhalation : Remarks: None known.
Skin contact : Remarks: None known.
Eye contact : Remarks: None known.
Ingestion : Remarks: None known.

Further information**Product:**

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:****benzoate esters:**

Toxicity to fish : LC50 (Fish): 3.7 mg/l
Exposure time: 96 h
Toxicity to daphnia and other : LL50 (Daphnia): 19.3 mg/l
aquatic invertebrates
Toxicity to algae : LL50 (Chlorella pyrenoidosa): 4.9 mg/l

Persistence and degradability**Ingredients:****benzoate esters:**

Biodegradability : Result: Readily biodegradable.
Method: Ready Biodegradability: CO2 Evolution Test
Biochemical Oxygen Demand (BOD) : BOD-5:
650 mg/g
Chemical Oxygen Demand (COD) : 2,230 mg/g

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Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation**49 CFR**

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

Ingredients	CAS-No.	Component TPQ (lbs)
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SARA 311/312 Hazards : No SARA Hazards**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.**California Prop. 65**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AICS : On the inventory, or in compliance with the inventory

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KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

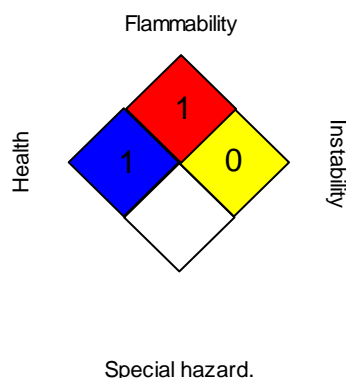
TCSI : On the inventory, or in compliance with the inventory

TSCA : On TSCA Inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION**Further information****NFPA 704:****HMIS® IV:**

HEALTH		1
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime

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Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8