SAFETY DATA SHEET

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

Product identifier

Product name: Eastman(TM) Chlorinated Polyolefin 515-2 (40% Solids in Toluene)

Product No.: EAN 971913. S1510007

Synonyms, Trade Names: 15100-00

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

Identified uses: Adhesion promoter
Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard Classification:

Physical Hazards

Flammable liquids	Category 2

Health Hazards

Skin Corrosion/Irritation	Category 2
Toxic to reproduction	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3
Specific Target Organ Toxicity - Repeated Exposure	Category 2
Aspiration Hazard	Category 1

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:

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Signal Words: DANGER!

Hazard Statement(s):
H225: Highly flammable liquid and vapor.
H315: Causes skin irritation.
H361d: Suspected of damaging the unborn child.
H336: May cause drowsiness or dizziness.
H373: May cause damage to organs (Kidneys., Nervous System) through prolonged or repeated exposure.
H304: May be fatal if swallowed and enters airways.

Precautionary Statement:

Prevention:
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash hands thoroughly after handling.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P271: Use only outdoors or in a well-ventilated area.

Response:
P370 + 378: In case of fire: Use water spray, carbon dioxide, dry chemical or foam for extinction.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P303+P361+P353: IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313: If skin irritation occurs: Get medical advice/attention.
P363: Wash contaminated clothing before reuse.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.

Storage:
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P233: Keep container tightly closed.
P405: Store locked up.

Disposal:
P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

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Hazard(s) not otherwise classified (HNOC): None known.

SECTION 3: Composition/information on ingredients

Substances / Mixtures

General information:

Chemical name	Concentration	Additional identification	Notes
toluene	<59%	CAS-No.: 108-88-3	#
chlorinated polyolefin	>38%	CAS-No.: 68442-33-1	
chlorobenzene	<6%	CAS-No.: 108-90-7	#
epoxidized oil	<3%	CAS-No.: 61789-01-3	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).

SECTION 4: First aid measures

Description of first aid measures

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Skin contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Call a physician or poison control center immediately. Do NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration.

Most important symptoms and effects, both acute and delayed: May irritate and cause redness and pain. Narcotic effect. Symptoms may be delayed.

Indication of any immediate medical attention and special treatment needed

Hazards: Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: Flammable liquid and vapor. USE WATER WITH CAUTION. Material will float and may ignite on surface of water.

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Extinguishing media

Suitable extinguishing media:	Water spray. Dry chemical. Foam. Carbon Dioxide.
Unsuitable extinguishing media:	None known.
Special hazards arising from the substance or mixture:	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations.

Advice for firefighters

Special fire fighting procedures:	Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
Environmental Precautions:	Avoid release to the environment.
Methods and material for containment and cleaning up:	Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling:	Avoid breathing mists or vapors. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities:	Keep container tightly closed and in a well-ventilated place.
Specific end use(s):	Adhesion promoter

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SECTION 8: Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Country specific exposure limits have not been established or are not applicable unless listed below.

Chemical name	type	Exposure Limit Values	Source
toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values (01 2010)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
chlorobenzene	TWA	10 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	75 ppm 350 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Biological Limit Values

Chemical name	Exposure Limit Values	Source
chlorobenzene (4-Chlorocatechol, with hydrolysis: Sampling time: End of shift at end of work week.)	100 mg/g (Creatinine in urine)	ACGIH BEL (01 2010)
chlorobenzene (p-Chlorophenol, with hydrolysis: Sampling time: End of shift at end of work week.)	20 mg/g (Creatinine in urine)	ACGIH BEL (01 2010)

Exposure controls

Appropriate engineering controls: 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.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities. Safety shower.

Eye/face protection: Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

Skin protection

Hand Protection: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Other: No data available.

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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. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices.
Environmental Controls:	No data available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Form:	Viscous Liquid
Color:	Yellow
Odor:	Aromatic
Odor Threshold:	2.9 ppm (estimated)
pH:	No data available.
Boiling Point:	110 °C
Flash Point:	5 °C (Tag closed cup) (estimated)
Evaporation Rate:	Not determined.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)–:	No data available.
Flammability Limit - Lower (%)–:	No data available.
Vapor pressure:	50.5 mbar (20 °C) (estimated)
Vapor density (air=1):	No data available.
Specific Gravity:	0.96 (25 °C)
Solubility(ies)	
Solubility in Water:	Negligible
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	(DSC) No exotherm to 450°C
Dynamic viscosity:	320 mPa.s (25 °C)
Kinematic viscosity:	333.33 mm2/s (25 °C)
Explosive properties:	No data available.
Oxidizing properties:	No data available.

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SECTION 10: Stability and reactivity

Reactivity: None known.

Chemical Stability: Stable

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Heat, sparks, flames.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation: High vapor concentrations may cause drowsiness.

Ingestion: May be fatal if swallowed and enters airways.

Skin contact: Causes skin irritation.

Eye contact: None known.

Information on toxicological effects

Oral

Product: No data available.

Specified substance(s):
toluene — Oral LD-50: (Rat, Male.): 5,580 mg/kg
Oral LD-50: (Rat, Male.): > 5,000 mg/kg

Specified substance(s):
chlorobenzene — Oral LD-50: (Rat): 2,262 mg/kg

Specified substance(s):
epoxidized oil — Oral LD-50: (Rat): > 3,200 mg/kg
Oral LD-50: (Mouse): > 3,200 mg/kg

Dermal

Product: No data available.

Specified substance(s):
toluene — Dermal LD-50: (Rabbit): > 5,000 mg/kg

Specified substance(s):
chlorobenzene — Dermal LD-50: (Guinea Pig): > 20,000 mg/kg

Inhalation

Product: No data available.

Specified substance(s):
toluene — LC50 (Rat, 4 h): > 20 mg/l

Specified substance(s):

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chlorobenzene	LC50 (Rat, 4 h): 29.7 mg/l

Repeated dose toxicity

Product:	No data available.
Specified substance(s): toluene	LOAEL (Rat, Inhalation): 600 ppm

Skin Corrosion/Irritation

Product:	No data available.
Specified substance(s): toluene	(Rabbit, 24 h): strong (Rabbit, 72 h): moderate
Specified substance(s): chlorobenzene	(Guinea Pig, 24 h): moderate
Specified substance(s): epoxidized oil	(Guinea Pig, 24 h): Slight

Serious Eye Damage/Eye Irritation

Product:	No data available.
Specified substance(s): toluene	Acute Eye Irritation / Corrosion (Rabbit, 24 h): Slight
Specified substance(s): chlorobenzene	(Rabbit): moderate
Specified substance(s): epoxidized oil	(Rabbit): Slight

Respiratory or Skin Sensitization

Product:	No data available.
Specified substance(s): toluene	Skin Sensitization: (Human): non-sensitizing
Specified substance(s): chlorobenzene	Skin Sensitization: (Guinea Pig): non-sensitizing
Specified substance(s): epoxidized oil	Skin Sensitization: (Guinea Pig): non-sensitizing

Carcinogenicity

Product:	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Toxicity to reproduction

Product:	No data available.

Developmental toxicity

Product:	No data available.

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Specified substance(s):
toluene — Rat, Female.; NOAEL: 2.812 mg/l; NOAEL: 2.812 mg/l; Inhalation

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.
Specified substance(s):
toluene — Narcotic effect.
Specified substance(s):
chlorobenzene — Inhalation: Narcotic effect.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.
Specified substance(s):
toluene — Nervous System, Kidney

Aspiration Hazard
Product: No data available.

Specified substance(s):
toluene — May be fatal if swallowed and enters airways.
Specified substance(s):
chlorobenzene — May be harmful if swallowed and enters airways.

Other effects: No data available.

SECTION 12: Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
toluene — LC-50 (salmon, 96 h): 5.5 mg/l

chlorobenzene — LC-50 (goldfish, 96 h): 73.03 mg/l

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
toluene — EC-50 (Water Flea, 48 h): 3.78 mg/l

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chlorobenzene	EC-50 (daphnid, 48 h): 4.3 mg/l

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

toluene	Readily biodegradable (according to OECD criteria).

BOD/COD Ratio

Product: No data available.

Specified substance(s):

chlorobenzene	7.32 %

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

toluene	Log Kow: 2.69

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

SECTION 13: Disposal considerations

Waste treatment methods

General information: No data available.

Disposal methods: Dispose of waste and residues in accordance with local authority requirements. Mix with compatible chemical which is less flammable and incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

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SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Reportable Quantity: 810 kg (chlorobenzene, toluene)
Possible Shipping Description(s):

UN 1139 Coating solution 3 II

IMDG - International Maritime Dangerous Goods Code

Possible Shipping Description(s):

UN 1139 COATING SOLUTION 3 II

IATA

Possible Shipping Description(s):

UN 1139 Coating solution 3 II

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture.:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.
WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/2, D/2/A, D/2/B

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard
delayed (chronic) health hazard
fire hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List
TOLUENE
CHLOROBENZENE

OSHA: hazardous

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TSCA (US Toxic Substances Control Act): All components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): All components of this product are listed on AICS or otherwise comply with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): One or more components or reactants of this product are not listed in the Handbook. In Japan, its use is restricted to research and development purposes only.

ECL (Korean Toxic Substances Control Act): All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 2*, Flammability - 3, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information:	Not relevant.
Key literature references and sources for data:	No data available.
Training information:	No data available.
Issue Date:	05/27/2015
SDS No.:	
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

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