

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance/preparation	HumiSeal 1A33
Use of the substance/preparation	Protective Coating for Printed Circuit Board
Version #	01
CAS #	Mixture
Product code	HumiSeal 1A33
Manufacturer information	CHASE CORPORATION Zeta Drive Plant 201 Zeta Drive Pittsburgh, Pennsylvania 15238 United States 1-866-932-0800 (+1)703-527-3887 Chemtrec

2. HAZARDS IDENTIFICATION

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	F;R11, Repr. Cat. 3;R63, T+;R26, T;R48/25, Xn;R21/22, Xi;R36/37/38, R43, N;R50/53
Physical hazards	Highly flammable.
Health hazards	Harmful in contact with skin and if swallowed. Very toxic by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by skin contact. Toxic: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of harm to the unborn child.
Environmental hazards	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	Highly flammable. Harmful by inhalation and in contact with skin. Irritating to mouth, throat, and stomach. Possible risk of harm to the unborn child. Do not breathe dust/fume/gas/mist/vapors/spray. Prolonged exposure may cause chronic effects.
Main symptoms	Irritating to mouth, throat, and stomach. Skin irritation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS #	Percent	EC-No.	Classification
XYLENES	1330-20-7	20 - 40	215-535-7	R10, Xn;R20/21, Xi;R38
ETHYLBENZENE	100-41-4	2.5 - 10	202-849-4	F;R11, Xn;R20-65-48/20
METHYL ETHYL KETONE	78-93-3	2.5 - 10	201-159-0	F;R11, Xi;R36, R66-67
TOLUENE	108-88-3	2.5 - 10	203-625-9	F;R11, Repr. Cat. 3;R63, Xn;R65-48/20, Xi;R38, R67
Other components below reportable levels		40 - 60		

4. FIRST AID MEASURES

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.
Skin contact	Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Take off contaminated clothing and wash before reuse. Wash clothing separately before reuse.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If ingestion of a large amount does occur, call a poison control center immediately.
General advice	Take off contaminated clothing and shoes immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Keep victim under observation. Keep victim warm.
Notes to physician	Oxygen, if needed. Keep victim warm. Symptoms may be delayed.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Extinguishing media which must not be used for safety reasons	Do not use water jet as an extinguisher, as this will spread the fire.
Unusual fire & explosion hazards	Heat may cause the containers to explode.
Specific hazards	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment for fire-fighters	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use standard firefighting procedures and consider the hazards of other involved materials. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Containment procedures	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.
Personal precautions	Keep unnecessary personnel away. Keep upwind. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. For personal protection, see section 8 of the SDS.
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
Methods for cleaning up	Extinguish all flames in the vicinity. This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. This material and its container must be disposed of as hazardous waste. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Handling	May be ignited by open flame. Keep away from sources of ignition - No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.
Storage	Do not handle or store near an open flame, heat or other sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

India. OELs. The Factories Act, The Second Schedule: Permissible Levels of Certain Chemical Substances in the Work Environment

Components	Type	Value
METHYL ETHYL KETONE (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
TOLUENE (CAS 108-88-3)		200 ppm
	STEL	560 mg/m3
	TWA	375 mg/m3
XYLENES (CAS 1330-20-7)		150 ppm
	STEL	655 mg/m3
	TWA	435 mg/m3
		100 ppm

Recommended monitoring procedures

Additional exposure data Not available.

Engineering measures to reduce exposure 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 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.

Hand protection Wear protective gloves.

Eye protection Face-shield. Avoid contact with eyes.

Skin and body protection Avoid contact with the skin. Wear chemical protective equipment that is specifically recommended by the manufacturer.

Environmental exposure controls Environmental manager must be informed of all major releases.

Hygiene measures When using do not smoke. Wash hands after handling.

Control parameters Follow standard monitoring procedures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state Liquid.

Form Liquid.

Color Clear

Odor Aromatic

pH Does not apply.

Melting point/Freezing point -138.82 °F (-94.9 °C) estimated

Boiling point, initial boiling point, and boiling range 175.26 °F (79.59 °C) estimated

Flash point 15.8 °F (-9.0 °C)

Auto-ignition temperature 759.2 °F (404 °C) estimated

Flammability limit - lower (%) 1 %

Flammability limit - upper (%) 7 %

Vapor pressure 26.35 hPa estimated

Vapor density Not available.

Evaporation rate 3.6 BuAc

Specific gravity 0.95

Density 0.95 g/cm3

Solubility(ies)

Solubility (water) Negligible

Partition coefficient (n-octanol/water)	Not available.
Decomposition temperature	Not available.
Viscosity	160 - 200 cP
Viscosity temperature	77 °F (25 °C)
Other data	
Brookfield viscosity	160 - 200 cP
Miscible (water)	Negligible
Percent volatile	54.09 % estimated
VOC (Weight %)	54.09 % estimated

10. STABILITY AND REACTIVITY

Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Hazardous decomposition products	No hazardous decomposition products are known.
Stability	Risk of ignition.
Materials to avoid	Strong acids. Strong oxidizing agents. Halogens. Ammonia. Amines. Isocyanates. Caustics.

11. TOXICOLOGICAL INFORMATION

Toxicological data

Product	Species	Test Results
HumiSeal 1A33		
<u>Acute</u>		
Dermal		
LD50	Rabbit	57165 mg/kg estimated 195 ml/kg estimated
Inhalation		
LC50	Mouse	73684 ppm, 8 Hours estimated 11710 mg/l, 6 Hours estimated 5540 ppm, 24 Hours estimated
	Rat	19032 mg/l, 4 Hours estimated
Oral		
LD50	Dog	52342 g/kg estimated
	Guinea pig	50689 g/kg estimated
	Mouse	3379 mg/kg estimated
	Rabbit	49587 g/kg estimated
	Rat	7053 mg/kg estimated
Components	Species	Test Results
ETHYLBENZENE (CAS 100-41-4)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	17800 mg/kg
Oral		
LD50	Rat	3500 mg/kg
METHYL ETHYL KETONE (CAS 78-93-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Inhalation		
LC50	Mouse	11000 ppm, 45 Minutes
	Rat	11700 ppm, 4 Hours
Oral		
LD50	Mouse	670 mg/kg
	Rat	2300 - 3500 mg/kg

Components	Species	Test Results
TOLUENE (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12124 mg/kg 14.1 ml/kg
Inhalation		
LC50	Mouse	5320 ppm, 8 Hours 400 ppm, 24 Hours
	Rat	26700 ppm, 1 Hours 12200 ppm, 2 Hours 8000 ppm, 4 Hours
Oral		
LD50	Rat	2.6 g/kg
XYLENES (CAS 1330-20-7)		
Acute		
Dermal		
LD50	Rabbit	> 43 g/kg
Inhalation		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
Oral		
LD50	Mouse	1590 mg/kg
	Rat	3523 - 8600 mg/kg

* Estimates for product may be based on additional component data not shown.

Routes of exposure	Inhalation. Skin contact. Eye contact.
Chronic toxicity	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.
Carcinogenicity	Risk of cancer cannot be excluded with prolonged exposure.
IARC Monographs. Overall Evaluation of Carcinogenicity	
ETHYLBENZENE (CAS 100-41-4)	2B Possibly carcinogenic to humans.
TOLUENE (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
XYLENES (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Teratogenicity	Avoid exposure to women during early pregnancy. Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.
Reproductivity	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Potential embryo-fetal toxicity and teratogenicity.
Epidemiology	No epidemiological data is available for this product.
Local effects	Irritating to eyes. Irritating to skin.
Symptoms and target organs	Skin irritation. Irritating to mouth, throat, and stomach.

12. ECOLOGICAL INFORMATION

Ecotoxicological data				
Product		Species		Test Results
HumiSeal 1A33				
Aquatic				
Crustacea	EC50	Daphnia	38.072 mg/l, 48 hours estimated	
Fish	LC50	Fish	109.2146 mg/l, 96 hours estimated	
Components		Species		Test Results
ETHYLBENZENE (CAS 100-41-4)				
Aquatic				
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours	

Components		Species	Test Results
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours
METHYL ETHYL KETONE (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours
TOLUENE (CAS 108-88-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon, silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
XYLENES (CAS 1330-20-7)			
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Ecotoxicity Not expected to be harmful to aquatic organisms.

Environmental effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Bioaccumulation

Bioaccumulative potential

Octanol/water partition coefficient log Kow

ETHYLBENZENE	3.15
METHYL ETHYL KETONE	0.29
TOLUENE	2.73
XYLENES	3.12 - 3.2

Aquatic toxicity Not available.

Mobility This product is miscible in water.

13. DISPOSAL CONSIDERATIONS

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not discharge into drains, water courses or onto the ground. Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Avoid discharge into water courses or onto the ground.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

IATA

UN number	1263
UN proper shipping name	PAINT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	1263
UN proper shipping name	PAINT

Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.
IATA; IMDG	



15. REGULATORY INFORMATION

Labeling

Contains

ETHYLBENZENE, TOLUENE, XYLENES

Symbol(s)



Very toxic



Highly flammable



Dangerous for the environment

R-phrases(s)

R11 Highly flammable.
R21/22 Harmful in contact with skin and if swallowed.
R26 Very toxic by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitization by skin contact.
R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R63 Possible risk of harm to the unborn child.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S9 Keep container in a well-ventilated place.
S13 Keep away from food, drink and animal feedingstuffs.
S16 Keep away from sources of ignition - No smoking.
S20 When using do not eat or drink.
S23 Do not breathe gas/fumes/vapor/spray.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of warm water.
S29 Do not empty into drains.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S57 Use appropriate container to avoid environmental contamination.
S60 This material and its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Follow national regulation for work with chemical agents.

Regulatory information

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Pregnant women should not work with the product, if there is the least risk of exposure.

16. OTHER INFORMATION

Wording of the R-phrases in sections 2 and 3

R10 Flammable.
R11 Highly flammable.
R20 Harmful by inhalation.
R20/21 Harmful by inhalation and in contact with skin.
R21/22 Harmful in contact with skin and if swallowed.
R26 Very toxic by inhalation.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R38 Irritating to skin.
R43 May cause sensitization by skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63 Possible risk of harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapors may cause drowsiness and dizziness.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Disclaimer

The information offered in this data sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication, however, no guarantee is made to its accuracy. This 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 other process. This material is intended for industrial use only. No warranty, expressed or implied is made.

Issue date

11-14-2016

Revision information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
HazReg Data: International Inventories