Section 1: Product and Company Identification

1.1 Product Identifier

Trade Name	Uroseal 45V, A Component
Product Number	J45V-K1
Product Description	Epoxy Formulation

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

Recommended Use	Protective Coating

1.3 Details of the Supplier of the Safety Data Sheet

Company	Epoxytec Intl, Inc 3000 N 29 CT HOLLYWOOD, FLORIDA 33023 Telephone (General): 954-961-4656

1.4 Emergency Telephone Number

3E Company Contract # 14738	N. America/S. America (+)1.760.476.3962 Europe (+)1.760.476.3962 Asia Pacific (+)1.760.476.3960 Middle East/Africa (+)1.760.476.3959

Section 2: Hazard(s) Identification

The product is classified and labeled according to the Globally Harmonized System (GHS) Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation (EC) No 1907/2006 (REACH).

2.1. Classification of the mixture
Component(s) Contributing to Classification(s)
Epoxy Resin, Aliphatic Acrylate

2.2. GHS Label elements, including precautionary statements

Pictogram(s)		
Signal Word	**Warning**	
GHS Hazard Classification	Skin Irritation Category 2 Skin Sensitization Category 1 Eye Irritation Category 2A Aquatic Acute Category 2 Aquatic Chronic Category 2	
Hazard Statements	H315 H317 H319 H401 H411	Causes skin irritation May cause an allergic skin reaction Causes serious eye irritation Toxic to aquatic life Toxic to aquatic life with long lasting effects.
Prevention Statements	P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

	P264 P272 P273 P280	Wash skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves, eye and face protection.
Response Statements	P302+352 P305+P351+P338 P321 P332 + P313 P337 + P313 P362 + P364 P391	IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see supplemental first aid instructions on this label). If skin irritation or rash occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. IF exposed or concerned: Get medical advice/attention. Collect spillage
Storage/Disposal	P501 P405	Dispose of contents/ container to an approved waste disposal plant. Store locked up.

2.3 Other Hazards
None Applicable

Section 3: Composition/Information on Ingredients

Chemical Characterization: Mixture
Description Mixture: Consisting of the following components

Materials	CAS #	EINECS #	Index #	Percentage	Classification
4,4'-isopropylidenediphenol-Epichlorohydrin Copoly-mer	25068-38-6	500-033-5	603-074-00-8	70-90	Skin Irrit. Cat 2 Skin Sens. Cat 1 Eye Irrit. Cat 2 Aquatic Chronic Cat 2
Aliphatic Acrylate	13048-33-4	235-921-9	607-109-00-8	10-20	Skin Irrit. Cat 2 Skin Sens. Cat 1 Eye Irrit. Cat 2
Titanium dioxide	1317-80-2	215-282-2	Not Listed	1-5	Not Classified

Additional Information:
See SECTION 16 for full Classification phrases.

Section 4: First Aid Measures

4.1 Description of first aid measures

General advice
Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled,
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Get medical attention.

In case of skin contact,

Remove contaminated clothing/shoes and wipe excess from skin. Flush skin with water. Follow by washing with soap and water. In case of inflammation (redness, and irritation) obtain medical attention. Show this sheet to the doctor. Do not reuse clothing until cleaned. Contaminated leather articles, including shoes, cannot be decontaminated and should be destroyed to prevent reuse.

In case of eye contact,

Immediately flush eyes with plenty of water for 15 minutes while holding eyelids open. Get medical attention.

If swallowed,

Never give anything by mouth to an unconscious person. Rinse mouth with water. Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in toxicological effects on section 11.

4.3 Protection of first aid personnel

In the case of body contact with molten material, immediately cool with running water; do not attempt to remove material from skin. It may be dangerous to the person providing air to give mouth to mouth resuscitation.

4.4. Notes to physician

Person might give an indication of skin, and eye injury because the mixture contains small concentration of isocyanate. Physician Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed.

Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure.

Section 5: Firefighting Measures

Flammability of the product

Product contains epoxy. In a fire or if heated a pressure increase will occur and the container may burst.

5.1. Extinguishing media

Fire can be extinguished using: Foam. Alcohol resistant foam. Dry chemicals, sand, dolomite etc..

5.2. Special hazards arising from the substance or mixture

During a fire, thermal decomposition of isocyanate vapors or combustion may liberate carbon oxides and other toxic gases or vapors. Exposure to heated diisocyanate can be extremely dangerous.

5.3. Special firefighting Procedure

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots, and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse.

Wear self-contained breathing apparatus and full protective clothing in case of fire.

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
No action shall be taken involving any personal risk or without suitable training. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Use appropriate respirator when ventilation is inadequate and use personal protective clothing as described in Section 8 of this safety data sheet. See section 11 for additional information on health hazards.

6.2. Environmental precautions
Do not let product enter drains, do not allow to sewers/surface or ground water. Prevent leakage or spillage.

6.3. Methods and material for containment and cleaning up
Stop leak if without risk. Move containers from spill area. Absorb with liquid-binding material (sand, earth, vermiculate, and universal binders) Wear necessary protective equipment. Wash thoroughly after dealing with a spillage. Vacuum or sweep up material and place in designated labeled waste container. Dispose of via a licensed waste disposal contractor.
For waste disposal, see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling
Put on appropriate personal protective equipment (see section 8 of SDS). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Use soap and water or a commercial hand cleaner. Person with a history of skin sensitization problems should not be employed in any process in which this product is used. Handle with good mechanical ventilation and local exhaust. Avoid inhalation of vapor or mist. For precautions see section 2.2. Avoid use of electric band heaters. Failures of electric band heaters have been reported to cause drums of epoxy resin to catch fire.

7.2 Conditions for safe storage, including any incompatibilities
Store in original container protected from direct sunlight, keep container tightly closed in a dry and well-ventilated place, away from heat, and strong oxidizers.
Recommended storage temperature 35-109 °F (2-43 °C).

7.3 Specific end uses.
See section 1.2.

Section 8: Exposure Controls/Personal Protection

8.1. Control parameters

If user operations generate dust, fumes, gas, vapor, or mist use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Ingredient	CAS #	Agency	Limit type
4,4'-isopropylidenediphenol-Epichlorohydrin Copolymer	25068-38-6		No occupational exposure limit values**.**
Aliphatic Acrylate	13048-33-4	WEEL	TWA: 1 mg/m^3 Dermal Sensitization Notation
Titanium dioxide	1317-80-2	ACGIH OSHA	TLV, TWA: 10 mg/m³, Respirable PEL, TWA: 15 mg/m³, Total dust PEL, TWA: 5 mg/m³, Respirable

8.2. Personal Protective Equipment

8.3. Exposure controls
Respiratory Protection
In case of inadequate ventilation wear respiratory protection. In the recommended room temperature, product does not release airborne side products; however, if a fire or a process occurs resulting heating above 248 °F (120 °C), workers must wear air supplied respirators.

Hand Protection
Wear chemical-resistant gloves such as: Nitrile, butyl rubber, neoprene, and polyvinyl chloride. Gloves should conform to EN374

Eye Protection
Safety eyewear complying with an approved standard should be used: chemical goggles or safety glasses with side shields.

Body Protection
Avoid all skin contact. Depending on the condition of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact such as gloves, goggles, long sleeved shirts and pants should be worn. Protective clothing should be made of a material that will protect you from the chemicals in the epoxy resin system you use.

Hygiene measures
Wash hands at the end of each work shift and before eating, smoking and using the lavatory. Wash promptly if skin becomes wet or contaminated. When using do not eat, drink or smoke. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to workstation location.

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

Physical and Chemical Properties

Appearance	
Form	Viscous, liquid
Color	White
Odor	Mild epoxy odor
Odor Threshold	Not applicable
pH	Not applicable
Solids (% by weight)	Not established
Melting point / freezing point	Not established
Boiling Point (deg. C)	Not established
Flash Point	Not established
Evaporation Rate	Not established
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not established
Vapour density	Not established
Relative Density	Not established
Solubility	Not established
Partition coefficient	Not established
Auto-ignition temperature	Not established
Decomposition temperature	Not established
Viscosity	Not established

Section 10: Stability and Reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical Stability
Stable under recommended storage conditions. See Storage, Section 7.
10.3 Possibility of Hazardous Reactions
Polymerization will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.
10.4 Thermal Decomposition and Conditions to be avoided
Avoid short term exposures to temperatures above 300 °C (572 °F). Avoid prolonged exposure to temperatures above 250 °C (482 °F). Potentially violent decomposition can occur above 350 °C (662 °F). Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.
10.5 Incompatible materials
Avoid contact with oxidizing materials. Avoid contact with: acids, bases and oxidizing agents such as fluorine, chlorine. Avoid unintended contact with amines.
10.6 Hazardous Decomposition Products
Decomposition products depend upon temperature, air supply and the presence of other materials.
Gases are released during decomposition. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide, and water.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

Toxicological information on ingredients:

Name	Route	Species	Value
4,4'-isopropylidenediphenol-Epichlorohydrin Copolymer	Dermal	Rat	LD50 - > 1,200 mg/kg
4,4'-isopropylidenediphenol-Epichlorohydrin Copolymer	Ingestion	Rat	LD50 - > 30,000 mg/kg
Aliphatic Acrylate	Dermal	Rabbit	LD50: 5,170 mg/kg
Aliphatic Acrylate	Ingestion	Rat	LD50: 5,190 mg/kg

11.1.2 Mixtures

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion / irritation	Skin Irritation Category 2
Serious eye damage / irritation	Eye Irritation Category 2
Respiratory or skin sensitization	Skin Sensitization Category 1
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met

Other Information

Inhalation: Not expected to be a relevant route of exposure, however, under conditions where exposure to vapors or mists is possible, could cause respiratory tract irritation.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact: Signs/symptoms may include abrasion, redness, pain, and blistering, itching and skin sensitization.

Eye Contact: May be severely irritating to the eyes: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Ingestion: Product may be slightly toxic and harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity Classification

4,4'-isopropylidenediphenol-Epichlorohydrin Copolymer

ACGIH : Not classified
IARC : Not classified
NTP : Not classified
OSHA : Not classified
EU : Not classified

Aliphatic Acrylate

ACGIH : Not classified
IARC : Not classified
NTP : Not classified
OSHA : Not classified

Titanium Dioxide

To the best of our knowledge, these fillers are not considered to be carcinogen

Section 12: Ecological Information

OVERVIEW: No ecological information available on the specific mixture.
Eco toxicological data have not been determined for this product. The information is given below is based on a knowledge of the components and ecotoxicology of similar components.

12.1 TOXICITY:

Component	CAS	Test	Data	Species
4,4'-isopropylidenediphenol-Epichlorohydrin Copoly-mer	25068-38-6	LC50	1.3 mg/l – 96h	Fish
Aliphatic Acrylate	13048-33-4	LC50	4.6-10 mg/l – 96h	Golden Orfe
		EC50	1.5 mg/l – 96h	Scenedesmus Subspicatus

12.2 PERSISTENCE AND DEGRADABILITY:
4,4'-isopropylidenediphenol-Epichlorohydrin Copolymer: According to the results of tests of biodegradability this product is not readily biodegradable. Remarks: no data available
Aliphatic Acrylate: Biodegradability aerobic - Exposure time 28 d, Result: 60- 70 % - Readily biodegradable
12.3 BIOACCUMULATIVE POTENTIAL:
No specific data available on this product.
12.4 MOBILITY IN SOIL:
Paste insoluble in water.
12.5 RESULTS OF PBT AND vPvB ASSESSMENT:
No specific data available on this product.
12.6 OTHER ADVERSE EFFECTS:
No specific data available on this product.
12.7 WATER ENDANGERMENT CLASS:
May be water endangering in accordance with EU Guideline 91/155-EWG. Do not allow product to reach ground water, water course or sewage system. At present there are no ecotoxicological assessments for this product.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods
The generation of waste should be avoided or minimized. Do not dump into any sewers, on the ground, or into any body of water. For disposal of residual product, mix by weight 100 parts Part A with 73 parts Part B. Allow mix to solidify in well ventilated area or outdoors. Regulations may vary in different locations. Dispose of this product, and/or any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Labels should not be removed from containers until they have been cleaned. Empty containers may contain hazardous residues.

Section 14: Transport Information

DOT (US)
Basic Shipping Requirements:
Proper Shipping Name : Environmentally Hazardous Substance, Liquid, N.O.S
Technical Name : 4'-isopropylidenediphenol-Epichlorohydrin Copolymer

Hazard Class : 9
UN/ID Number : 3082
Packing Group : III

IMO/IMDG
Proper Shipping Name : Environmentally Hazardous Substance, Liquid, N.O.S
Technical Name : 4'-isopropylidenediphenol-Epichlorohydrin Copolymer
Hazard Class : 9
UN/ID Number : 3082
Packing Group : III

IATA
Proper Shipping Name : Environmentally Hazardous Substance, Liquid, N.O.S
Technical Name : 4'-isopropylidenediphenol-Epichlorohydrin Copolymer
Hazard Class : 9
UN/ID Number : 3082
Packing Group : III

CFR/TDG
Not regulated for transport

Section 15: Regulatory Information

Superfund Amendments and Reauthorization Act (SARA) of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

SARA 302 Components (Emergency Planning)
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components (Toxic Chemical Release Inventory)
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.

SARA 311/312 Hazards (Hazardous Chemical Storage Reporting Requirements)
Acute Health Hazard

Pennsylvania Right To Know Components

Reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	Cas # 25068-38-6
Aliphatic Acrylate	Cas # 13048-33-4

New Jersey Right To Know Components

Reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	Cas # 25068-38-6
Aliphatic Acrylate	Cas # 13048-33-4

California Prop. 65 Components (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product does contain chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. Titanium Dioxide CAS# 1317-80-2

CANADIAN REGULATIONS:
CANADIAN DSL/NDSL INVENTORY STATUS: Components are DSL Listed, NDSL Listed and/or are exempt from listing
OTHER CANADIAN REGULATIONS: Not applicable.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.
CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product has been classified per WHMIS 2015.

EUROPEAN ECONOMIC COMMUNITY INFORMATION:
This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.
See Section 2 for Details
CHEMICAL SAFETY ASSESSMENT :
No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.
AUSTRALIAN INFORMATION FOR PRODUCT: This product does meet the definition of a hazardous substance or preparation as defined by the Safe Work Australia Act. Components of this product are listed on the International Chemical Inventory list

Section 16: Other Information

Contains epoxy constituents and aliphatic acrylates. See information supplied by the manufacturer.

HMIS Rating (Scale 0-4)
Health hazard: 2
Flammability: 1
Reactivity Hazard: 0

NFPA Rating (Scale 0-4)
Health hazard: 2
Flammability Hazard: 1
Reactivity Hazard: 0

Abbreviations and acronyms

ACGIH	*Industrial Hygienists Suggest Exposure Limits*
CFR	*Code of Federal Regulations*
OT	*Federal Department of Transportation*
DSL	*Domestic Substance List*
EC50	*Half maximal effective concentration*
ErC50	*EC50 in terms of reduction of growth rate*
EU	*European Union*
GHS	*The Globally Harmonized System of Classification and Labelling of Chemicals*
HMIS	*Hazardous Material Identification System*
HCS	*Hazard Communication Standard*
IARC	*International Agency for Research on Cancer*
IATA	*The International Air Transport Association*
IMDG	*International Maritime Dangerous Goods*
IMO	*International Maritime Organization*
LD50/LC0	*Lethal Concentration/Dose, 50 percent*
NFPA	*National Fire Protection Association*
NTP	*National Toxicology Program*

OSHA	*Occupational Safety and Health*
SARA	*Superfund Amendments and Reauthorization Act*
STEL	*Short Term Exposure Limit*
TDG	*The Canadian Transportation of Dangerous Goods*
TWA	*Time-Weighted Average*
WEEL	*Workplace Environmental Exposure Levels*
Eye Irrit.	*Eye Irritation*
Skin Irrit.	*Skin Irritation*
Skin Sens.	*Skin Sensitization*

Explanation and Disclaimer: *Each customer or recipient has to become aware of and understand the data given in this SDS and any hazards associated with the product. The information is provided in good faith and believed to be accurate; however, does not appear all inclusive and shall be used only as a guide. Regulatory requirements are subject to change and may differ between various locations, it is buyer's responsibility to ensure that comply with all state, federal or local laws. The information in this document is based on the present state of our knowledge applicable to the product with regard to safety precautions. The information presented in here relates only to the product as shipped, and it is the buyer's responsibility to determine the conditions necessary for the safe use of this product. If you have received this SDS from any source other than Epoxytec or its authorized agent, the information contained in it may have been modified from the original document.*

Epoxytec International Inc. products are designed for industrial use only.

Revision History:
October 4 2016 - Document creation.

END OF SDS

Section 1: Product and Company Identification

1.1 Product Identifier

Trade Name	Uroseal 45V, B Component
Product Number	J45V-K1(B)
Product Description	Epoxy Formulation

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

Recommended Use	Protective Coating

1.3 Details of the Supplier of the Safety Data Sheet

Company	EPOXYTEC INTL, INC. 3000 N 29 CT HOLLYWOOD, FLORIDA 33023 Telephone (General): 954-961-4656

1.4 Emergency Telephone Number

3E Company Contract # 14738	N. America/S. America (+)1.760.476.3962 Europe (+)1.760.476.3962 Asia Pacific (+)1.760.476.3960 Middle East/Africa (+)1.760.476.3959

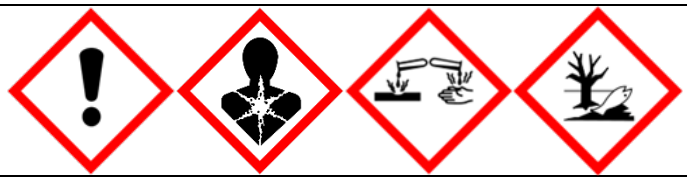
The product is classified and labeled according to the Globally Harmonized System (GHS) Classification in

Section 2: Hazard(s) Identification

accordance with 29 CFR 1910 (OSHA HCS) and Regulation (EC) No 1907/2006 (REACH).

2.1. Classification of the mixture
Chemical Family: Amine
Component(s) Contributing to Classification(s)
2-Piperazin-1-ylethylamine, Phenol, 4,4'-(1-methylethylidene)bis-, 4-Nonylphenol, Branched, Benzyldimethylamine, Paratertiarybutylphenol, Methylenebiscyclohexanamine, 4,4'-

2.2. GHS Label elements, including precautionary statements

Pictogram(s)		
Signal Word	**Danger**	
GHS Hazard Classification	Acute Toxicity Category 4 (Oral) Acute Toxicity Category 4 (Dermal) Skin Corrosion Category 1B Eye Damage Category 1 Skin Sensitization Category 1 Reproductive Toxicity Category 2 STOT RE Category 2 STOT SE Category 3 (Respiratory Irritation) Aquatic Acute Category 1 Aquatic Chronic Category 1	
Hazard Statements	H302	Harmful if swallowed

	H312 H314 H317 H361 H373 H335 H400 H410	Harmful in contact with skin Causes severe skin burns and eye damage May cause an allergic skin reaction Suspected of damaging fertility or the unborn child May cause damage to organs through prolonged or repeated exposure May cause respiratory irritation Very toxic to aquatic life Very toxic to aquatic life with long lasting effects
Prevention Statements	P201 P202 P260 P264 P270 P271 P272 P280 P281 P273	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, eye and face protection. Use personal protective equipment as required. Avoid release to the environment.
Response Statements	P301+P330+P331 P308+P313 P304+P340+P312 P303+P361+P353 P305+P351+P338 P310 P333+P313 P337+P313 P363 P321 P314 P391	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF exposed or concerned: Get medical advice/ attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. If skin irritation or rash occurs: Get medical advice/ attention. If eye irritation persists: Get medical advice/attention. Wash contaminated clothing before reuse. Specific treatment (see section 4 of this SDS) Get medical advice/attention if you feel unwell. Collect spillage.
Storage/Disposal	P403 + P235 P405 P501	Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/ container to an approved waste disposal plant.

2.3 Other Hazards
None applicable

Section 3: Composition/Information on Ingredients

Chemical Characterization: Amine
Description Mixture: Consisting of the following components

Materials	CAS #	EINECS #	Index #	Percentage	Classification
2-Piperazin-1-ylethylamine	140-31-8	205-411-0	612-105-00-4	20-35	Acute Tox. Cat 4 (oral) Acute Tox. Cat 4 (dermal) Skin Corr. Cat. 1B Skin Sens. Cat 1 Aquatic Chronic Cat 3
Phenol, 4,4'-(1-	80-05-7	201-245-8	604-030-00-	14-28	Eye Dam. Cat 1

methylethylidene)bis-			0		Skin Sens. Cat 1 Repr. Cat 2 STOT SE Cat 3 (Resp Irrit) Aquatic Acute/Chronic Cat 2
4-Nonylphenol, Branched	84852-15-3	284-325-5	601-053-00-8	19-25	Acute Tox. Cat 4 (oral) Skin Corr. Cat. 1B Repr. Cat 2 Aquatic Acute/Chronic Cat 1
Benzyldimethylamine	103-83-3	203-149-1	612-074-00-7	3-7	Flam. Liquid Cat 3 Acute Tox. Cat 3 (oral) Acute Tox. Cat 4 (Inhal) Acute Tox. Cat 4 (dermal) Skin Corr. Cat. 1B Aquatic Acute/Chronic Cat 2
Paratertiarybutylphenol	98-54-4	202-679-0	Not Listed	0.5-4	Skin Irrit. Cat 2 Eye Dam. Cat 1 Repr. Cat 2 Aquatic Acute/Chronic Cat 2
Methylenebiscyclohexanamine, 4,4'-	1761-71-3	217-168-8	Not Listed	3-4	Acute Tox. Cat 4 (oral) Skin Corr. Cat. 1B Skin Sens. Cat 1 STOT RE Cat 2 Aquatic Acute/Chronic Cat 1

Additional Information:
See SECTION 16 for full Classification phrases.

Section 4: First Aid Measures

4.1 Description of first aid measures

General advice

Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

If inhaled,

If breathed in, move person into fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, give artificial respiration or oxygen by trained personal. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. The exposed person may need to be kept under medical surveillance for 48 hours.

In case of skin contact

Immediately remove contaminated clothing and shoes without delay. Flush immediately with plentiful amounts of water. Initiate and maintain continuous wash until the patient receives medical care. If medical care is not promptly available, continue to wash with water for one hour. Cover wound with sterile dressing. Application of corticosteroid cream has been effective in treating skin irritation.

In case of eye contact

Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. Remove contact lenses, if present and easy to do. If medical care is not available immediately, continue rinsing for one hour.

If swallowed
Wash out mouth with water. Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.
Notes to physician
In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of immediate medical attention and special treatment needed
Treat symptomatically.

Section 5: Firefighting Measures

5.1. Extinguishing media
Fire can be extinguished using: Foam. Alcohol resistant foam. Carbon dioxide (CO_2). Dry chemicals, sand, limestone powder.
Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture
Hazardous combustion products
During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Ammonia gas, Nitrogen oxides. Incomplete combustion may form carbon monoxide.

5.3. Advice for firefighters
Special Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of re-ignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personal from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream, may spread fire. Move container from the area if this is possible without hazard.

Special Protective Equipment for Firefighters: Wear positive pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (including firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with self-contained breathing apparatus. If this is not available wear full chemical resistant clothing with self-contained breathing apparatus. And fight fire from a remote location.

5.4. Further Information
Do not allow run-off from firefighting to enter drains or water courses. Fire residues and contaminated water must be disposed of in accordance with local regulations.

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear self-contained breathing apparatus and chemically protective clothing in case of fire. Use suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

6.2. Environmental precautions
Do not let product enter drains, do not allow to sewers/surface or ground water. Prevent spillage.
Use appropriate containment to avoid environmental contamination and inform the relevant authorities.

6.3. Methods and material for containment and cleaning up
Wear necessary protective equipment. Vacuum or sweep up material and place in designated labeled waste container. Dispose of via a licensed waste disposal contractor. Wash thoroughly with soap and hot water after dealing with a spillage. For waste disposal, see section 13.

6.4. Additional advice
See section 11 for additional information on health hazards.
For waste disposal, see section 13.
Open enclosed spaces to outside atmosphere. If possible, stop flow of product

Section 7: Handling and Storage

7.1 Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only in well-ventilated areas and avoid breathing vapors and/or aerosols. Emergency showers and eye wash stations should be readily accessible. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Use personal protective equipment, do not drink, eat and smoke during handling.

7.2 Conditions for safe storage, including any incompatibilities
Store locked up. Keep container tightly closed in a dry and well-ventilated place, away from heat, and strong oxidizers. Containers that have been opened must be carefully resealed. Do not store in unlabeled containers. Protect from temperatures below: 0 °C. Protect from temperatures above: 40 °C. Do not store in reactive metal containers. Provide accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limit.

7.3 Specific Use
See section 1.2

Section 8: Exposure Controls/Personal Protection

8.1. Control parameters
If user operations generate dust, fumes, gas, vapor, or mist use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of work.

8.2 Personal Protective Equipment

8.3 Exposure controls

Respiratory Protection

Wear a NIOSH certified organic vapor respirator. Not applicable with adequate ventilation. If cured product is machined, sanded or grinded, wear particulate respirators or other air-purifying respirators based on the specific airborne concentration found in the workplace.

Hand Protection

Wear chemical-resistant gloves such as: Nitrile- rubber, neoprene, and butyl-rubber. Gloves should conform to EN374. The breakthrough time of the selected gloves must be greater than the indented use period.

Eye Protection

Tightly fitting safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Wear face shield if splashing hazard exist.

Body Protection

Protective clothing should be made of a material that will protect you from the chemicals: Slicker suit, impervious clothing, full rubber suit, rubber or plastic boots, long sleeve shirts and trousers without cuffs.

Hygiene Measures

Wash hands, forearms and face thoroughly at the end of each work shift and before eating, smoking and using the lavatory. Wash promptly if skin becomes wet or contaminated. When using do not eat, drink or smoke. Discard contaminated leather articles.

Environmental Control Measures

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Construct a dike to prevent spreading.

Section 9: Physical and Chemical Properties

Physical and Chemical Properties

Form	Liquid
Color	Light Yellow
Odor	Ammoniacal
Odor Threshold	Not applicable
pH	Alkaline
Melting point / freezing point	Not established
Boiling Point (deg. C)	> 392 °F (> 200 °C)
Flash Point	> 212 °F (> 100 °C)
Evaporation Rate	Not established
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	< 2.00 mmHg at 70 °F (21 °C)
Vapour density	Not established
Relative density	Not established
Solubility	Not established
Partition coefficient	Not established
Auto-ignition temperature	Not established
Decomposition temperature	Not established
Viscosity	Not established

Section 10: Stability and Reactivity

10.1 Reactivity
See 10.5
10.2 Stability
Stable under recommended storage conditions.
10.3 Possibility of Hazardous Reactions
Risk of polymerization reactions.
10.4 Conditions to avoid
Contact with incompatibles.
10.5 Incompatible Materials
Avoid contact with oxidizing materials or agents (e.g. sodium hypochlorite). Components of mixture reactive with hydroxyl compounds, organic and mineral acids (i.e. acetic acid, citric acid). Reactive metals such as calcium, zinc, etc. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.
10.6 Hazardous Decomposition Products
Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Ammonia, Nitrogen oxides, Nitric acid, Carbon monoxide, Carbon dioxide, Aldehydes, flammable hydrocarbon fragments.
Other Hazards
Exposure to elevated temperatures can cause product to decompose.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicological information on ingredients:

Name	Route	Species	Value
Phenol, 4,4'-(1-methylethyllidene)bis	Ingestion	Rat	LD50 – 2,000 - 5,000 mg/kg
	Inhalation	Rat	LC50 – 170 mg/m^3 - 6 h
	Dermal	Rabbit	LD50 - 6,400 mg/kg
	Skin Irritation	Rabbit	No skin irritation - 4 h
	Eye Irritation	Rabbit	Severe eye irritation - 24 h
2-Piperazin-1-ylethylamine	Ingestion	Rat	LD50 – 2,097 mg/kg
	Inhalation		No data available
	Dermal	Rabbit	LD50 - 866 mg/kg
	Skin Irritation	Rabbit	Corrosive - 4 h
	Eye Irritation	Rabbit	Risk of serious damage to eyes
4-Nonylphenol, Branched	Ingestion	Rat	LD50 - 1,412 mg/kg
	Dermal		No data available
	Skin corrosion	Rabbit	Causes burns. - 4 h
	Eye irritation	Rabbit	Corrosive - 72 h
Benzyldimethylamine	Ingestion	Rat	LD50 - >265 mg/kg
	Dermal	Rabbit	LD50 – 1,660 mg/kg
Paratertiarybutylphenol	Ingestion	Rat	LD50 - >2000 mg/kg
Methylenebiscyclohexanamine, 4,4'-	Ingestion	Rat	LD50 – 380 mg/kg
	Dermal	Rabbit	LD50 – 1,000 mg/kg

11.1.2 Mixtures

Acute toxicity	Acute Toxicity Category 4 (Oral, Dermal)
Skin corrosion / irritation	Skin Corrosion Category 1
Serious eye damage / irritation	Eye Damage Category 1
Respiratory or skin sensitization	Skin Sensitization Category 1
Germ cell mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Reproductive Toxicity Category 2
STOT-single exposure	STOT SE Category 3 (Respiratory Irritation)
STOT-repeated exposure	STOT RE Category 2
Aspiration hazard	Based on available data, the classification criteria are not met

Other Information

Eye contact/corrosion : May cause severe damage to the eyes.

Acute dermal irritation/corrosion : Corrosive! Damages skin and eyes.

Sensitization : Causes skin burns. If absorbed through the skin, may cause central nervous system effects such as headache, nausea, dizziness, confusion, breathing difficulties. Harmful in contact with skin.

Inhalation Effects : Harmful if inhaled and may cause delayed lung injury. May cause nose, throat, and lung irritation. May cause central nervous system effects such as headache, nausea, confusion, dizziness, and breathing difficulties.

Ingestion Effects : Harmful if swallowed. If ingested severe burns of the mouth and throat.

Symptoms : Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat, eye disease, skin disorders and allergies.

Acute toxicity

Assessment of acute toxicity: May cause burns to the mouth, throat, and stomach. Higher temperatures may generate vapor levels sufficient to cause irritation of the respiratory tract.

PHENOL, 4,4'-(1-METHYLETHYLLIDENE)BIS

Carcinogenicity

ACGIH : Not classified
IARC : Not classified
NTP : Not classified
OSHA : Not classified

Specific target organ toxicity - single exposure
Inhalation - May cause respiratory irritation.
Repeated dose toxicity - Rat - male and female - Oral - Lowest observed adverse effect level - 600 mg/kg
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

2-PIPERAZIN-1-YLETHYLAMINE

Carcinogenicity

ACGIH : Not classified
IARC : Not classified
NTP : Not classified
OSHA : Not classified

Reproductive toxicity - rat - Oral
Paternal Effects: Spermatogenesis (including genetic material, sperm morphology,motility, and count).

4-NONYLPHENOL, BRANCHED
Carcinogenicity
ACGIH : Not classified
IARC : Not classified
NTP : Not classified
OSHA : Not classified
Reproductive toxicity
Suspected human reproductive toxicant
Reproductive toxicity - Rat - Oral
Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.
Suspected human reproductive toxicant

Section 12: Ecological Information

12.1 Toxicity
OVERVIEW: No ecological information available on the specific mixture.
Aquatic toxicity: No data is available on the product itself.
Ecological information of components

Name	Toxicity to fish	Toxicity to daphnia	Toxicity to algae
4-Nonylphenol, Branched	Lepomis macrochirus LC50 (96 h): 0.209 mg/l	LC50 (48h): 0.0844 mg/l	EC50 (72 h): 0.33 mg/l
Benzyldimethylamine	Golden Orfe LC50 (96h): 10-22 mg/l	No Data	No data
Paratertiarybutylphenol	Fathead Minnow LC50 (96h): 5.14 mg/l	Water Flea (48hr) EC50: 4.8 mg/l	Green Algae IC50 (72h): 11.2 mg/l
Methylenebiscyclohexanamine, 4,4'-	Golden Orfe LC50 (96h): 67.8 mg/l	Water Flea (48hr) EC50: 9.24 mg/l	Green Algae IC50 (72h): 140-200 mg/l

12.2 Persistence and degradability
4-NONYLPHENOL, BRANCHED
Biodegradability aerobic - Exposure time 28 d, Result: 62 % - Readily biodegradable
Methylenebiscyclohexanamine, 4,4'-
Biodegradability aerobic - Exposure time 28 d, Result: < 10 % - Not readily biodegradable
12.3 BIOACCUMULATIVE POTENTIAL:
No specific data available on this product.
12.4 MOBILITY IN SOIL:
No specific data available on this product.
12.5 RESULTS OF PBT AND vPvB ASSESSMENT:
No specific data available on this product.
12.6 OTHER ADVERSE EFFECTS:
No specific data available on this product.
12.7 WATER ENDANGERMENT CLASS:
May be water endangering in accordance with EU Guideline 91/155-EWG. Do not allow product to reach ground water, water course or sewage system. At present there are no ecotoxicological assessments for this product.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods
Waste from Residues/Unused
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not dump into any sewers, on the ground, or into any body of water. Contact supplier if guidance is required. Any dispose of this product o surface water in the United States is prohibited.
Contaminated Packaging
The generation of waste should be avoided or minimized wherever possible. Dispose of container and unused contents in accordance with all applicable local and national regulations.

Section 14: Transport Information

Road Transport: DOT / ADR
Proper Shipping Name : Amines, liquid, corrosive, n.o.s., (Contains Nonyl Phenol, Benzyldimethylamine, 4,4'-Methylenebiscyclohexanamine)
Hazard Class : 8
UN/ID Number : UN2735
Packing Group : II
Marine Pollutant : Yes

Air Transport: IATA/ICAO
Proper Shipping Name : Amines, liquid, corrosive, n.o.s., (Contains Nonyl Phenol, Benzyldimethylamine, 4,4'-Methylenebiscyclohexanamine)
Hazard Class : 8
UN/ID Number : UN2735
Packing Group : II
Marine Pollutant : Yes

Transportation of Dangerous Goods: TDG
Proper Shipping Name : Amines, liquid, corrosive, n.o.s., (Contains Nonyl Phenol, Benzyldimethylamine, 4,4'-Methylenebiscyclohexanamine)
Hazard Class : 8
UN/ID Number : UN2735
Packing Group : II
Marine Pollutant : Yes

Sea Transport: IMDG
Proper Shipping Name : Amines, liquid, corrosive, n.o.s., (Contains Nonyl Phenol, Benzyldimethylamine, 4,4'-Methylenebiscyclohexanamine)
Hazard Class : 8
UN/ID Number : UN2735
Packing Group : II
Marine Pollutant : Yes

Section 15: Regulatory Information

OSHA Hazard Communication Standard (29CFR 1910.1200) Hazard Class(es): Corrosive, and environmental hazardous material.

EPA SARA Title III Section 311/312 (40 CFR 370) Hazard Classification
Acute (immediate) and chronic (delayed) health hazard

EPA SARA Title III Section 313 (40 CFR 372) Components above 'de minimums' level

2-Piperazin-1-ylethylamine	CAS # 140-31-8
Bisphenol A	CAS # 80-05-7

Massachusetts Right To Know Components

2-Piperazin-1-ylethylamine	CAS # 140-31-8
Bisphenol A	CAS # 80-05-7

Pennsylvania Right To Know Components

2-Piperazin-1-ylethylamine	CAS # 140-31-8
Bisphenol A	CAS # 80-05-7
Phenol, 4-Nonyl-, Branched	CAS # 84852-15-3

New Jersey Right To Know Components

2-Piperazin-1-ylethylamine	CAS # 140-31-8
Bisphenol A	CAS # 80-05-7
Phenol, 4-Nonyl-, Branched	CAS # 84852-15-3

US California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

CANADIAN REGULATIONS:
CANADIAN DSL/NDSL INVENTORY STATUS: Components are DSL Listed, NDSL Listed and/or are exempt from listing
OTHER CANADIAN REGULATIONS: Not applicable.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.
CANADIAN WHMIS CLASSIFICATION and SYMBOLS: This product has been classified per WHMIS 2015.

EUROPEAN ECONOMIC COMMUNITY INFORMATION:

This product does meet the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.
See Section 2 for Details
CHEMICAL SAFETY ASSESSMENT :
No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

AUSTRALIAN INFORMATION FOR PRODUCT:
This product does meet the definition of a hazardous substance or preparation as defined by the Safe Work Australia Act. Components of this product are listed on the International Chemical Inventory list

Section 16: Other Information

Contains amine curing agents, nonylphenol, metal and ceramic powders.

HMIS Rating (Scale 0-4)	**NFPA Rating (Scale 0-4)**
Health hazard: 3	Health hazard: 3
Flammability: 1	Flammability: 1
Physical Hazard: 0	Physical Hazard: 0

Caution: HMIS ratings are based on a 0-4 rating scale
4= Extreme
3= High
2= Moderate
1= Slight
0= Minimal hazard

Abbreviations and acronyms

ADR	*International Carriage of Dangerous Goods by Road*
ACGIH	*American Conference of Industrial Hygienists*
CFR	*U.S. Code of Federal Regulations*
DOT	*Department of Transportation*
EC50	*Half maximal effective concentration*
EPA	*Environmental Protection Agency*
EU	*European Union*
HCS	*Hazard Communication Standard*
HMIS	*Hazardous Material Identification System*
IATA	*The International Air Transport Association*
ICAO	*International Civil Aviation Organization*
IC50	*Half maximal inhibitory concentration*
IMDG	*International Maritime Dangerous Goods*
NFPA	*The National Fire Protection Association*
LD50/LC50	*Lethal Concentration/Dose, 50 percent*
OSHA	*Occupational Safety and Health*
PEL	*OSHA Permissible Exposure Limit*
SARA	*Superfund Amendments and Reauthorization Act*
TDG	*Transportation of Dangerous Goods*
TLV	*ACGIH Threshold Limit Value*
TWA	*Time-Weighted Average*
WEEL	*Workplace Environmental Exposure Levels*
Skin Irrit.	*Skin Irritation*
Skin Sens.	*Skin Sensitization*
Eye Dam.	*Eye Damage*
Eye Irrit.	*Eye Irritation*
Acute Tox.	*Acute Toxicity*
Skin Corr.	*Skin Corrosion*
Repr.	*Reproductive Toxicity*
STOT SE	*Specific Target Organ Toxicity – Single Exposure*
STOT RE	*Specific Target Organ Toxicity – Repeated Exposure*

Explanation and Disclaimer: *Each customer or recipient has to become aware of and understand the data given in this SDS and any hazards associated with the product. The information is provided in good faith and believed to be accurate; however, does not appear all inclusive and shall be used only as a guide. Regulatory requirements are subject to change and may differ between various locations, it is buyer's responsibility to ensure that comply with all state, federal or local laws. The information in this document is based on the present state of our knowledge applicable to the product with regard to safety precautions. The information presented in here relates only to the product as shipped, and it is the buyer's responsibility to determine the conditions necessary for the safe use of this product. If you have received this SDS from any source other than Epoxytec or its authorized agent, the information contained in it may have been modified from the original document.*

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END OF SDS