SAFETY DATA SHEET

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Print Date 7-13-2020

SECTION 1. IDENTIFICATION

Product name: Ceram-Kote TZN Part B curing agent

Manufacturer or supplier’s details
Company name of supplier: Ceram-Kote Coatings, Inc
1800 Industrial Dr.
Big Spring, Tx 79727
United States of America (USA)

Telephone: Non-Emergency: (432) 263-8497

Emergency telephone number: ChemTel: +1(800)-255-3924 Contract# MIS1807449
Outside the USA: 1-813-248-0585, For Australia: 1-300-954-583, For Brazil: 0-800-591-6042,
China: 400-120-0751, India: 000-800-100-4086, Mexico: 800-099-0731

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200
Acute toxicity (Oral) Category 4
Acute toxicity (Inhalation) Category 3
Skin corrosion Category 1B
Serious eye damage Category 1
Skin sensitization Category 1
Reproductive toxicity Category 18
Specific target organ toxicity - single exposure Category 3 (Respiratory system)
Short-term (acute) aquatic hazard Category 1
Long-term (chronic) aquatic hazard Category 1

GHS label elements
Hazard pictograms

Danger

Hazard statements
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H360F May damage fertility.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P301 + P330 + P3311 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P3531 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P3101 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 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/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P331 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

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

Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.
Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Amines

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Isopropyldenediphenol, oligomeric reaction products with 1-chloro-2,3-</td>
<td>31326-29-1</td>
<td>30 - 50</td>
</tr>
<tr>
<td>epoxypropane, reaction products with diethyleneetriamine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diethyleneetriamine</td>
<td>111-40-0</td>
<td>30 - 50</td>
</tr>
<tr>
<td>4,4'-isopropyldenediphenol</td>
<td>80-05-7</td>
<td>25 - 30</td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice

Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
 Treat symptomatically.
Get medical attention if symptoms occur.

If inhaled

Call a physician or poison control center immediately.
If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact

Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact

Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed

Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
High volume water jet

Specific hazards during firefighting
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products
Carbon dioxide (CO2)
Carbon monoxide
Nitrogen oxides (NOx)

Specific extinguishing methods
No data is available on the product itself.

Further information
Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Refer to protective measures listed in sections 7 and 8.

Environmental precautions
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up
Neutralize with acid.
Soak up with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust).

Notes to physician: Treat symptomatically.

Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion
Normal measures for preventive fire protection.

Advice on safe handling
Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage
Prevent unauthorized access.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Keep in properly labelled containers.

Materials to avoid
For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature
36 - 104 °F 12 - 40 °C

Further Information on storage stability
Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylenetriamine</td>
<td>111-40-0</td>
<td>TWA</td>
<td>1 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 ppm 4 mg/m³</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>

Personal protective equipment
Respiratory protection
In the case of vapour formation use a respirator with an approved filter.
Respiratory protection

General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Remarks

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection

Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

liquid

Colour

No data is available on the product itself.

Odour

amine-like

Odour Threshold

No data is available on the product itself.

pH

c.a. 11

Freezing point

No data is available on the product itself.

Melling point

No data is available on the product itself.

Boiling point

> 392 °F / > 200°C

Flash point

> 199.99 °F / > 93.33 °C
Method: closed cup

Evaporation rate

No data is available on the product itself.
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Flammability (solid, gas) No data is available on the product itself.
Flammability (liquids) No data is available on the product itself.
Upper explosion limit / Upper flammability limit No data is available on the product itself.
Lower explosion limit / Lower flammability limit No data is available on the product itself.
Vapour pressure No data is available on the product itself.
Relative vapour density No data is available on the product itself.
Relative density
Density
1.07 (68° F / 20°C)
Solubility(ies)
Water solubility No data is available on the product itself.
Solubility in other solvents completely miscible
Partition coefficient: n-octanol/water No data is available on the product itself.
Auto-ignition temperature No data is available on the product itself.
Thermal decomposition No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)
Viscosity No data is available on the product itself.
Explosive properties No data is available on the product itself.
Oxidizing properties No data is available on the product itself.
Particle size No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity No dangerous reaction known under conditions of normal use. Stable under normal conditions.
Chemical stability No hazards to be specially mentioned.
Possibility of hazardous reactions
Conditions to avoid None known.
Incompatible materials None known.
Hazardous decomposition No hazardous decomposition products are known.
SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure: No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product Acute toxicity estimate: 1,025 mg/kg
Method: Calculation method

Acute inhalation toxicity - Product Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

Acute toxicity estimate: 0.5286 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity - Product Acute toxicity estimate: 2,986 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration): No data available

Skin corrosion/irritation

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Species: Rabbit
Assessment: Causes burns.
Result: Causes burns.
GLP: yes

Diethylenetriamine:
Species: Rabbit
Assessment: Causes burns.
Result: Causes burns.

4,4'-isopropylidenediphenol:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Serious eye damage/eye irritation

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Result: Severe irritation
Assessment: Causes severe burns.
Method: OECD Test Guideline 437

Diethylenetriamine:
Species: Rabbit
Result: Corrosive
Assessment: Corrosive

4,4'-isopropylidenediphenol:
Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405

Respiratory or skin sensitization

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Test Type: Local lymph node assay (LLNA)
Species: Mouse
Assessment: Probability or evidence of high skin sensitization rate in humans
Method: OECD Test Guideline 429
Result: May cause sensitization by skin contact.
GLP: yes

Diethylenetriamine:
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: May cause sensitization by skin contact.
Remarks: Causes sensitization.

Exposure routes: Respiratory Tract
Species: Mouse
Result: Does not cause respiratory sensitization.

4,4'-isopropylidenediphenol:
Exposure routes: Skin
Species: Mouse
Method: OECD Test Guideline 429
Result: Does not cause skin sensitization.

Exposure routes: Skin
Species: Humans
Assessment: May cause sensitization by skin contact.
Result: Causes sensitization.

Assessment: No data available
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Germ cell mutagenicity

Components:
4,4'-isopropyldenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethyleneetriamine:

Genotoxicity in vitro
Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

4,4'-isopropyldenediphenol:
Genotoxicity in vitro
Metabolic activation: with and without metabolic activation
Result: negative

Components:
Diethyleneetriamine:
Genotoxicity in vivo
Cell type: Somatic
Application Route: Oral
Dose: 85 - 850 mg/kg
Method: OECD Test Guideline 474
Result: negative

Application Route: Oral
Result: negative

4,4'-isopropyldenediphenol:
Genotoxicity in vivo
Method: OECD Test Guideline 474
Result: negative

Carcinogenicity

Components:
Diethyleneetriamine:
Species: Mouse, male
Application Route: Dermal
Dose: 56.3 mg/kg
Frequency of Treatment: 3 daily
Result: negative

4,4'-isopropyldenediphenol:
Species: Rat, male and female
Application Route: Oral
Exposure time: 103 weeks
Frequency of Treatment: 7 daily
Result: negative

Carcinogenicity - No data available
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Assessment

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:

Effects on fertility
Test Type: Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test
Species: Rat, male and female
Strain: wistar
Application Route: Oral
General Toxicity - Parent: No observed adverse effect level: 60 mg/kg body weight
Fertility: No-observed-effect level: 60 mg/kg body weight
Method: OECD Test Guideline 422
GLP: yes

Diethylenetriamine:
Species: Rat, male and female
Application Route: Oral
General Toxicity - Parent: No observed adverse effect level: 30 mg/kg wet weight
Method: OECD Test Guideline 421

4,4'-isopropylidenediphenol:
Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 416
Result: Embryotoxic effects and adverse effects on the offspring were detected.

Components:
Diethylenetriamine:
Effects on foetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: No observed adverse effect level: 100 mg/kg body weight
Method: OECD Test Guideline 421
Result: No adverse effects
4,4'-isopropylidenephenoil:  
Species: Rat, female  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
< 160 mg/kg body weight  
Method: OECD Test Guideline 416  
Result: No teratogenic effects  

Components:  
4,4'-isopropylidenephenoil:  
Reproductive toxicity -  
Assessment  
Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.  

STOT - single exposure  
Components:  
Dihylenetriamine:  
Target Organs: Respiratory Tract  
Assessment: May cause respiratory irritation.  

4,4'-isopropylidenephenoil:  
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.  

STOT - repeated exposure  
No data available  

Repeated dose toxicity  
Components:  
4,4'-Isopropylidenephenoil, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with dihylenetriamine:  
Species: Rat, male and female  
NOAEL: 60 mg/kg Application  
Route: Oral  
Method: OECD Test Guideline 422  
GLP: yes  

Dihylenetriamine:  
Species: Rat, male and female  
NOEC: 70 - 80 mg/m³  
Application Route: Ingestion  
Test atmosphere: vapour  
Exposure time: 360 h  
Number of exposures: 7 d  
Method: Subchronic toxicity  
Species: Rat, male and female  
NOAEL: 114 mg/kg/d  
Application Route: Skin contact
Exposure time: 9,600 h  
Number of exposures: 6 d  
Method: Chronic toxicity

4,4'-isopropylidenediphenol:  
Species: Dog, male and female  
NOEC: 75 mg/kg, 10 mg/m3  
Application Route: Ingestion  
Test atmosphere: dust/mist  
Exposure time: 2,160 h  
Number of exposures: 7 d  
Method: Subchronic toxicity

Species: Rat, male and female  
LOAEL: 600 mg/kg  
Application Route: Ingestion  
Exposure time: 672 h  
Number of exposures: 7 d  
Method: Subchronic toxicity

Repeated dose toxicity - No data available  
Assessment

Aspiration toxicity  
No data available

Experience with human exposure  
General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution  
No data available

Neurological effects  
No data available

Further information  
Ingestion: No data available
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)): >0.16 mg/L
WAF
End point: mortality
Method: OECD Test Guideline 203
GLP: yes

Diethylenetriamine:
Toxicity to fish
LC50: 430 mg/l
Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water

4,4'-isopropylidenediphenol:
Toxicity to fish
LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l
Exposure time: 96 h

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Toxicity to daphnia and other aquatic invertebrates
EC50 (Daphnia magna (Water flea)): 1.7 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: Immobilization
Method: OECD Test Guideline 202
GLP: yes

NOEC: 1 mg/l
Method: OECD Test Guideline 202

Diethylenetriamine:
Toxicity to daphnia and other aquatic invertebrates
EC50 (Daphnia magna (Water flea)): 32 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: see user defined free text

4,4'-isopropylidenediphenol:
Toxicity to daphnia and other aquatic invertebrates
EC50: 3.9 * 10.2 mg/l
Exposure time: 48 h
(Ceriodaphnia dubia (Water flea)): 
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:

Toxicity to algae/aquatic plants

ELSO (Pseudokirchneriella subcapitata (green algae)): > 0.31 mg/l
Exposure time: 72 h
Test Type: semi-static test
Method: OECD Test Guideline 201

NOELr (Pseudokirchneriella subcapitata (green algae)): 0.1 mg/l
Method: OECD Test Guideline 201
GLP: yes

Diethylenetriamine:
Toxicity to algae/aquatic plants

EC50 (Selenastrum capricornutum (green algae)): 1,164 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

4,4'-isopropylidenediphenol:
Toxicity to algae/aquatic plants

EC50 (Selenastrum capricornutum (green algae)): 2.5-3.1 mg/l
Exposure time: 96 h

Components:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:

M-Factor (Acute aquatic toxicity) : 1

Components:

Diethylenetriamine:
Toxicity to fish (Chronic toxicity)

NOEC: 10 mg/l
Exposure time: 28 d
Test Type: semi-static test Test substance: Fresh water Method: OECD Test Guideline 210

4,4'-Isopropylidenediphenol:
Toxicity to fish (Chronic toxicity)

NOEC (Pimephales promelas (fathead minnow)): 0.016 mg/l
Exposure time: 444 d
Test Type: flow-through test Test substance: Fresh water Method: Fish Life Cycle Toxicity Remarks: Toxic to aquatic organisms.

Components:

Diethylenetriamine:
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): 5.6 mg/l
Exposure time: 21 d
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Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
M-Factor (Chronic aquatic toxicity) : 1

4,4'-isopropylidenediphenol:
M-Factor (Chronic aquatic toxicity)

Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Toxicity to microorganisms EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: semi-static test
Method: OECD Test Guideline 209
GLP: yes

Components:
Diethylenetriamine:
Toxicity to soil dwelling organisms EC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 56 d
Method: OECD Test Guideline 222

Plant toxicity No data available
Sediment toxicity No data available
Toxicity to terrestrial organisms No data available

Ecotoxicology Assessment
Components:
Diethylenetriamine:
Acute aquatic toxicity : This product has no known ecotoxicological effects.

Components:
4,4'-isopropylidenediphenol:
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects. Toxicity Data on Soil No data available
Other organisms relevant to the environment No data available

Persistence and degradability
Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Biodegradability Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Diethylenetriamine:
Biodegradability

Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 87 %
Exposure time: 21 d
Method: OECD Test Guideline 301D

4,4'-isopropylidenediphenol:
Biodegradability

Result: Not readily biodegradable.
Biodegradation: 1 - 2 %
Exposure time: 28 d

Biochemical Oxygen Demand (BOD):
No data available

Chemical Oxygen Demand (COD):
No data available

BOD/COD
No data available

ThOD
No data available

BOD/ThOD
No data available

Dissolved organic carbon (DOC)
No data available

Physico-chemical removability:
No data available

Stability in water:
No data available

Components:
Diethylenetriamine:
Photodegradation

Test Type: Air
Rate constant: 500000
Degradation (direct photolysis): 50 %

Impact on Sewage Treatment:
No data available

Bioaccumulative potential Components:
Diethylenetriamine:
Bioaccumulation

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 0.3 - 6.3
Exposure time: 42 d
Test substance: Fresh water Method:
flow-through test Remarks:
Bioaccumulation is unlikely.
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Components:
4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine:
Partition coefficient: n-octanol/water
\[ \log \text{Pow: 0.704 (73.4°F /23.0°C)} \]
Method: OECD Test Guideline 117
GLP: yes

Diethylenetriamine:
Partition coefficient: n-octanol/water
\[ \log \text{Pow: -1.58 (68°F /20°C)} \]
\[ \text{pH: 7} \]

Mobility in soil
Mobility: No data available

Components:
Diethylenetriamine:
Distribution among environmental compartments
\[ \text{Koc: 19111} \]
Stability in soil
No data available

Other adverse effects
Environmental fate and pathways
No data available

Results of PBT and vPvB assessment
No data available

Endocrine disrupting potential
: No data available

Adsorbed organic bound halogens (AOX)
: No data available

Hazardous to the ozone layer
Ozone-Depletion Potential
Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App. A & B).

Additional ecological information - Product
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

Global warming potential (GWP)
No data available
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues  The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations. Dispose of contents/container to an approved waste disposal plant.

Contaminated packaging  Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA
UN No.  UN 2735
Proper shipping name  Amines, liquid, corrosive, n.o.s.  (DETA-BADGE polymer, DIETHYLENETRIAMINE)
Class  8
Packing group  II
Labels  Class 8 - Corrosive substances
Packing instruction (cargo aircraft)  835
Packing instruction (passenger aircraft)  851

IMDG
UN number  UN 2735
Proper shipping name  Amines, liquid, corrosive, n.o.s.  (DETA-BADGE polymer, DIETHYLENETRIAMINE)
Class  8
Packing group  II
Labels  8
Code Marine  F-A, S-B
Pollutant  yes
Transport in bulk according to Annex II of MARPOL mna and the IBC Code
Not applicable for product as supplied.

National Regulations

DOT Classification
SAFETY DATA SHEET

UN#/NA number: UN 2735
Proper shipping name: AMINES, LIQUID, CORROSIVE,
(DETA-BADGE polymer, DIETHYLENETRAMEINE)
Class: 8
Packing group: II
Labels ERG: Class 8 - Corrosive substances
Code Marine: 153
Pollutant: yes (4,4'-isopropyl dinediphenol)

Special precautions for user:
The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 311/312 Hazards: Acute toxicity (any route of exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation
Respiratory or skin sensitization
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313
The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-isopropylidenediphenol <= 20 - < 30% 80-05-7

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65
WARNING: This product can expose you to chemicals including 4,4'-isopropylidenediphenol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:
CH INV On the inventory, or in compliance with the inventory
DSL All components of this product are on the Canadian DSL
AICS On the inventory, or in compliance with the inventory
ENCS On the inventory, or in compliance with the inventory
NZioC On the inventory, or in compliance with the inventory
SAFETY DATA SHEET

Version 5.0 Revision Date: 7-13-2020
Date of last issue: 11/19/2019
Print Date 7-13-2020

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 the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

TSCA- 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information
NFPA 704:

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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 "I/" represents the absence of a chronic hazard.

Revision Date 11/19/2019
ACGIH USA, ACGIH Threshold Limit Values (TLV)
NIOSH REL USA, NIOSH Recommended Exposure Limits
ACGIH/TWA 8-hour, time-weighted average
NIOSH REL/TWA Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

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