



Safety Data Sheet

*** Section 1 - Product and Company Identification ***

Material Name: CERAM-KOTE TQM Part A

Manufacturer Information

CERAM-KOTE COATINGS INCORPORATED
1800 Industrial Drive
Big Spring, TX USA 79720

Phone: 432-263-8497

Emergency # CHEMTREC +001 703-527-3887

*** Section 2 - Hazards Identification ***

GHS Classification:

Flammable Liquids - Category 2
Skin Corrosion/Irritation - Category 2
Eye Damage/Irritation - Category 2
Skin Sensitization - Category 1
Specific Target Organ Toxicity (Single Exposure) - Category 3
Aquatic Toxicity Chronic - Category 2

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation, drowsiness or dizziness.
Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.

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Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Avoid breathing mist/vapours/spray.
Contaminated work clothing should not be allowed out of the workplace.
Use only outdoors or in a well-ventilated area.

Response

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
In case of fire: Use foam, carbon dioxide, or dry chemical for extinction.
Avoid release to the environment.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

CAS#	Component	Percent
1344-28-1	Aluminum oxide	42-75
25068-38-6	Bisphenol A-epichlorohydrin polymer	10-25
78-93-3	Methyl ethyl ketone	7-15
67762-90-7	Dimethyl silicone polymer with silica	1-3

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Flush with running water for at least 15 minutes. Seek medical attention.

First Aid: Skin

Wash with flowing water. Remove contaminated clothing and launder before re-wearing. If irritation persists, seek medical attention.

First Aid: Ingestion

DO NOT induce vomiting. Seek medical attention.

First Aid: Inhalation

Remove individual to fresh air. If breathing is difficult, administer oxygen and obtain medical aid.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.
Highly flammable liquid and vapour. Prevent smoking, open flame, static and other electrical sparking. Excessive heat may cause lids of containers to pop open from excessive vapour pressure.

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Hazardous Combustion Products

Primary combustion products are carbon monoxide, carbon dioxide, and low molecular weight hydrocarbons. Other undetermined compounds could be released in small quantities.

Extinguishing Media

Use foam, carbon dioxide, or dry chemical.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Treat as a flammable liquid type fire. In a sustained fire wear self-contained breathing apparatus and full protective gear.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop the flow of material, if this is without risk.

Materials and Methods for Clean-Up

Land Spill: Prevent material from entering sewers or waterways. Remove all ignition sources. Ventilate area. Absorb with inert materials (e.g. vermiculite or sand) and place in a closed container for proper disposal. Wash spill area well with trisodium phosphate and water.

Water Spill: Material is mostly insoluble. The material will sink. Notify local environmental, health and wildlife authorities, and water intake operators. Contain with booms and minimize spread on water. Disperse any remaining residue to reduce aquatic harm.

Air Release: Spills of this material may release volatile organic compounds into the air. Spills should be cleaned or covered to prevent volatilization.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate protective equipment and clothing during clean-up.

Environmental Precautions

Avoid release to the environment.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing vapors or mists of this product. Ground/bond container and receiving equipment. Use non-sparking tools.

Storage Procedures

Keep away from heat and ignition sources.

Incompatibilities

Avoid organic peroxides and oxidizers.

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*** Section 8 - Exposure Controls / Personal Protection ***

Substance Exposure Limits

Aluminum oxide (215-691-6)

Austria:	10 mg/m ³ STEL [KZW] (alveolar dust, respirable fraction, smoke, 2 X 60 min) 5 mg/m ³ TWA [TMW] (alveolar dust, respirable fraction, smoke)
Belgium:	1 mg/m ³ TWA (as Al)
Denmark:	5 mg/m ³ TWA (total, as Al); 2 mg/m ³ TWA (respirable, as Al)
France:	10 mg/m ³ TWA [VME]
Germany:	4 mg/m ³ TWA MAK (dust, inhalable fraction); 1.5 mg/m ³ TWA MAK (dust, respirable fraction)
Greece:	10 mg/m ³ TWA (inhalable fraction); 5 mg/m ³ TWA (respirable fraction)
Portugal:	10 mg/m ³ TWA [VLE-MP] (particulate matter containing no Asbestos and < 1% Crystalline silica)
Spain:	10 mg/m ³ TWA [VLA-ED]
Sweden:	5 mg/m ³ LLV (total dust, as Al); 2 mg/m ³ LLV (respirable dust, as Al)

Methyl ethyl ketone (201-159-0)

ACGIH:	300 ppm STEL 200 ppm TWA
Austria:	200 ppm STEL [KZW] (4 X 30 min); 590 mg/m ³ STEL [KZW] (4 X 30 min) 100 ppm TWA [TMW]; 295 mg/m ³ TWA [TMW] skin notation
Belgium:	300 ppm STEL; 900 mg/m ³ STEL 200 ppm TWA; 600 mg/m ³ TWA
Denmark:	50 ppm TWA; 145 mg/m ³ TWA Potential for cutaneous absorption 100
Finland:	ppm STEL; 300 mg/m ³ STEL Potential for cutaneous absorption
France:	300 ppm STEL [VLCT] (restrictive limit); 900 mg/m ³ STEL [VLCT] (restrictive limit) 200 ppm TWA [VME] (restrictive limit); 600 mg/m ³ TWA [VME] (restrictive limit)
Germany:	200 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1); 600 mg/m ³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, exposure factor 1) 5 mg/L Medium: urine Time: end of shift Parameter: 2-Butanone 200 ppm TWA MAK; 600 mg/m ³ TWA MAK 200 ppm Peak; 600 mg/m ³ Peak 300
Greece:	ppm STEL; 900 mg/m ³ STEL 200 ppm TWA; 600 mg/m ³ TWA
Ireland:	300 ppm STEL; 900 mg/m ³ STEL 200 ppm TWA; 600 mg/m ³ TWA Potential for cutaneous absorption
Italy:	200 ppm TWA; 600 mg/m ³ TWA
Netherlands:	900 mg/m ³ STEL 590 mg/m ³ TWA skin notation
Portugal:	200 ppm TWA [VLE-MP]
Spain:	300 ppm STEL [VLA-EC]; 900 mg/m ³ STEL [VLA-EC] 200 ppm TWA [VLA-ED] (indicative limit value); 600 mg/m ³ TWA [VLA-ED] (indicative limit value)
Sweden:	50 ppm LLV; 150 mg/m ³ LLV 100 ppm STV; 300 mg/m ³ STV

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Engineering Measures

General dilution ventilation and/or exhaust ventilation should be provided as necessary to maintain exposures below regulatory limits.

Personal Protective Equipment: Respiratory

If irritation occurs, or if the TLV or PEL is exceeded, use a NIOSH approved air purifying respirator with organic vapor cartridges or canisters, or supplied air respirators.

Personal Protective Equipment: Hands

Use chemical resistant gloves such as neoprene or natural rubber gloves.

Personal Protective Equipment: Eyes

Chemical protective goggles.

Personal Protective Equipment: Skin and Body

Loose fitting long sleeved shirt and long pants are recommended.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Translucent	Odor:	Aromatic
Physical State:	Liquid	pH:	Slight Acidic
Vapor Pressure:	ND	Vapor Density:	3.2 (Air=1)
Boiling Point:	116°C (241°F)	Melting Point:	ND
Solubility (H2O):	Insoluble	Specific Gravity:	1.98 +/- 0.1
Evaporation Rate:	ND	VOC:	1.76 lb/gal (210.92 g/l) less water
Viscosity:	700 to 1000 cP	Bulk Density:	15.2 lb/gal (6.9 kg) +/- 0.50
Octanol/H2O Coeff.:	ND	Flash Point:	17.8°C (64°F) when catalyzed
Flash Point Method:	ND	Upper Flammability Limit (UFL):	8.0
Lower Flammability Limit (LFL):	ND	Burning Rate:	ND
Auto Ignition:	ND		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Product may undergo hazardous polymerization.

Conditions to Avoid

Avoid excessive heat, contamination and prolonged storage above 70°F (21.1°C).

Incompatible Products

Avoid organic peroxides and oxidizers.

Hazardous Decomposition Products

May form: carbon dioxide, carbon monoxide, and low molecular weight hydrocarbons.

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50

Aluminum oxide (1344-28-1)

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Oral LD50 Rat >5000 mg/kg

Bisphenol A-epichlorohydrin polymer (25068-38-6)

Oral LD50 Rat 11400 mg/kg

Methyl ethyl ketone (78-93-3)

Inhalation LC50 Mouse 32 g/m³ 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause dryness, cracking and possible dermatitis with prolonged or repeated contact.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Direct eye contact may cause immediate irritation with redness, burning, tearing and blurred vision.

Potential Health Effects: Ingestion

May cause mouth, throat and gastrointestinal irritation, nausea, vomiting, and diarrhea if ingested.

Potential Health Effects: Inhalation

May cause respiratory irritation.

Respiratory Organs Sensitization/Skin Sensitization

May cause an allergic skin reaction.

Generative Cell Mutagenicity

Product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

Product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity

Product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation and possible central nervous system effects including headaches, nausea, vomiting, dizziness, drowsiness, loss of coordination, impaired judgment, and general weakness. In lab animals, overexposure by inhalation to MIBK has been reported to cause liver and kidney abnormalities, and lung and brain damage.

Specified Target Organ General Toxicity: Repeated Exposure

Product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Toxic to aquatic life with long lasting effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Methyl ethyl ketone (78-93-3)

Test & Species

96 Hr LC50 Pimephales promelas

3130 - 3320 mg/L

[flow-through]

48 Hr EC50 Daphnia magna

>520 mg/L

Conditions

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48 Hr EC50 Daphnia magna

5091 mg/L

48 Hr EC50 Daphnia magna

4025 - 6440 mg/L

[Static]

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

ADR Information

Shipping Name: Resin Solution

UN #: 1866 **Hazard Class:** 3 **Packing Group:** III

IATA Information

Shipping Name: Resin Solution

UN #: 1866 **Hazard Class:** 3 **Packing Group:** III

ICAO Information

Shipping Name: Resin Solution

UN #: 1866 **Hazard Class:** 3 **Packing Group:** III

IMDG Information

Shipping Name: Resin Solution

UN #: 1866 **Hazard Class:** 3 **Packing Group:** III

*** Section 15 - Regulatory Information ***

EU MARKING AND LABELLING:

Symbol(s):

F Xi N

Risk Phrases:

R11 Highly flammable.

R36/38 Irritating to eyes and skin.

R43 May cause sensitisation by skin contact

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R67 Vapours may cause drowsiness and dizziness

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Substance Analysis - Inventory

Component/CAS	EC #	EEC	CAN	TSCA
Aluminum oxide 1344-28-1	215-691-6	EINECS	DSL	Yes
Bisphenol A-epichlorohydrin polymer 25068-38-6	500-033-5	No	DSL	Yes
Methyl ethyl ketone 78-93-3	201-159-0	EINECS	DSL	Yes
Dimethyl silicone polymer with silica 67762-90-7	-	No	DSL	Yes

*** Section 16 - Other Information ***

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

Available on request.

End of Sheet



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*** Section 1 - Product and Company Identification ***

Material Name: CERAM-KOTE TTM Part B

Manufacturer Information

CERAM-KOTE® COATINGS INCORPORATED
1800 Industrial Drive
Big Spring, TX USA 79720

Phone: 432-263-8497

Emergency # CHEMTREC +001 703-527-3887

*** Section 2 - Hazards Identification ***

GHS Classification:

- Acute Toxicity Dermal - Category 4
- Acute Toxicity Inhalation - Category 2 Skin
- Corrosion/Irritation - Category 1B
- Skin Sensitization - Category 1
- Toxic to Reproduction - Category 2
- Specific Target Organ Toxicity (Single Exposure) - Category 3

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

- Harmful in contact with skin.
- Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. May cause respiratory irritation.

Precautionary Statements

Prevention

- Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe vapours.
- Use only outdoors or in a well-ventilated area. Wear respiratory protection.
- Wash thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Obtain special instructions before use.

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Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

Response

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

CAS#	Component	Percent
111-40-0	Diethylenetriamine	30-60
80-05-7	Bisphenol A	13-30

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

First Aid: Skin

Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

First Aid: Ingestion

Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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First Aid: Inhalation

Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. 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. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.

Protection of First-Aiders

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous Combustion Products

Decomposition products may include the following materials: carbon dioxide, carbon monoxide and nitrogen oxides.

Extinguishing Media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Attempt to reclaim the free product, if this is possible.

Materials and Methods for Clean-Up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as spilled product.

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Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas.

Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

Put on appropriate personal protective equipment.

Environmental Precautions

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Prevention of Secondary Hazards

None.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage Procedures

Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Incompatibilities

Strong acids, strong bases, strong oxidizing agents.

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*** Section 8 - Exposure Controls / Personal Protection ***

Component Exposure Limits

Diethylenetriamine (203-865-4)

ACGIH:	1 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route
Austria:	1 ppm TWA [TMW]; 4 mg/m ³ TWA [TMW]
Belgium:	1 ppm TWA; 4.3 mg/m ³ TWA Skin
Denmark:	1 ppm TWA; 4 mg/m ³ TWA Potential for cutaneous absorption
Finland:	3 ppm STEL; 13 mg/m ³ STEL 1 ppm TWA; 4.3 mg/m ³ TWA Potential for cutaneous absorption
France:	1 ppm TWA [VME]; 4 mg/m ³ TWA [VME]
Greece:	1 ppm TWA; 4 mg/m ³ TWA 1 ppm
Ireland:	TWA; 4 mg/m ³ TWA Potential for cutaneous absorption
Portugal:	1 ppm TWA [VLE-MP]
Spain:	1 ppm TWA [VLA-ED]; 4.3 mg/m ³ TWA [VLA-ED] skin - potential for cutaneous exposure sensitizer
Sweden:	1 ppm LLV; 4.5 mg/m ³ LLV 2 ppm STV; 10 mg/m ³ STV

Bisphenol A (201-245-8)

Austria:	5 mg/m ³ STEL [KZW] (inhalable fraction) 5 mg/m ³ TWA [TMW] (inhalable fraction) Sensitizer
Belgium:	10 mg/m ³ TWA
Denmark:	3 mg/m ³ TWA (particulate matter)
France:	10 mg/m ³ TWA [VME] (inhalable particulates)
Germany:	5 mg/m ³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, inhalable fraction, exposure factor 1) 5 mg/m ³ TWA MAK (inhalable fraction) 5 mg/m ³ Peak (inhalable fraction)
Netherlands:	10 mg/m ³ TWA (respirable)
Spain:	10 mg/m ³ TWA [VLA-ED] (indicative limit value)

Engineering Measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal Protective Equipment: Respiratory

In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Personal Protective Equipment: Hands

Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers.

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Personal Protective Equipment: Eyes

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Personal Protective Equipment: Skin and Body

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Yellow, clear	Odor:	Amine-like
Physical State:	Liquid	pH:	11 (Conc. % w/w): 50%
Vapor Pressure:	0.1 kPA (20°C)	Vapor Density:	Not Available
Boiling Point:	>200°C	Melting Point:	Not Available
Solubility (H2O):	Partially soluble	Specific Gravity:	Not Available
Evaporation Rate:	Not Available	VOC:	Not Available
Viscosity:	Dynamic: 3400-5000 mPas @25°C	Octanol/H2O Coeff.:	Not Available
Flash Point:	110°C	Flash Point Method:	PMCC
Upper Flammability Limit (UFL):	Not Available	Lower Flammability Limit (LFL):	Not Available
Burning Rate:	Not Available	Auto Ignition:	Not Available

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid

No specific data.

Incompatible Products

Strong acids, strong bases, strong oxidizing agents.

Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

*** Section 11 - Toxicological Information ***

Acute Toxicity

Component Analysis - LD50/LC50

Diethylenetriamine (111-40-0)

Oral LD50 Rat 819 mg/kg; Dermal LD50 Rabbit 672 mg/kg

Bisphenol A (80-05-7)

Oral LD50 Rat 3200 mg/kg; Dermal LD50 Rabbit 3000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Causes severe burns. Harmful in contact with skin.

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Potential Health Effects: Eye Critical Damage/ Stimulativeness

Causes serious eye damage.

Potential Health Effects: Ingestion

May cause burns to mouth, throat and stomach.

Potential Health Effects: Inhalation

May cause respiratory irritation. Exposure to decomposition products may cause a health hazard.

Serious effects may be delayed following exposure.

Respiratory Organs Sensitization/Skin Sensitization

May cause an allergic skin reaction.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

This product is not reported to have any carcinogenic effects.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ toxicity repeated exposure effects.

Aspiration Respiratory Organs Hazard

Not an aspiration hazard.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

This product is not reported to have any ecotoxicity effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Diethylene triamine (111-40-0)

Test & Species

Conditions

96 Hr LC50 Leuciscus idus	430 mg/L [semi-static]
96 Hr LC50 Poecilia reticulata	248 mg/L [static]
96 Hr LC50 Poecilia reticulata	1014 mg/L [semi-static]
72 Hr EC50 Pseudokirchneriella subcapitata	1164 mg/L
96 Hr EC50 Pseudokirchneriella subcapitata	345.6 mg/L
96 Hr EC50 Desmodesmus subspicatus	592 mg/L
24 Hr EC50 Daphnia magna	37 mg/L
48 Hr EC50 Daphnia magna	16 mg/L

Safety Data Sheet

Bisphenol A (80-05-7)

Test & Species

	Conditions
96 Hr LC50 Pimephales promelas	3.6-5.4 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	4.0-5.5 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	4 mg/L
96 Hr LC50 Brachydanio rerio	9.9 mg/L [static]
96 Hr EC50 Pseudokirchneriella subcapitata	2.5 mg/L
48 Hr EC50 Daphnia magna	10.2 mg/L
48 Hr EC50 Daphnia magna	3.9 mg/L
48 Hr EC50 Daphnia magna	9.2 - 11.4 mg/L [Static]

Conditions

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

IATA Information

Shipping Name: Diethylenetriamine

UN #: 2079 Hazard Class: 8 Packing Group: II

ICAO Information

Shipping Name: Diethylenetriamine

UN #: 2079 Hazard Class: 8 Packing Group: II

IMDG Information

Shipping Name: Diethylenetriamine

UN #: 2079 Hazard Class: 8 Packing Group: II

*** Section 15 - Regulatory Information ***

Regulatory Information

EU MARKING AND LABELLING:

Symbol(s):

C

Safety Data Sheet

Risk Phrases:

R34 Causes burns.
R21/22 Harmful in contact with skin and if swallowed. R43 May cause sensitization by skin contact. R62 Possible risk of impaired fertility.

Substance Analysis - Inventory

Component/CAS	EC #	EEC	CAN	TSCA
Diethylenetriamine 111-40-0	203-865-4	EINECS	DSL	Yes
Bisphenol A 80-05-7	201-245-8	EINECS	DSL	Yes

*** Section 16 - Other Information ***

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail; ADR/RID = European Agreement of Dangerous Goods by Road/Rail; AS = Standards Australia; DFG = Deutsche Forschungsgemeinschaft; DOT = Department of Transportation; DSL = Domestic Substances List; EEC = European Economic Community; EINECS = European Inventory of Existing Commercial Chemical Substances; ELINCS = European List of Notified Chemical Substances; EU = European Union; HMIS = Hazardous Materials Identification System; IARC = International Agency for Research on Cancer; IMO = International Maritime Organization; IATA = International Air Transport Association; MAK = Maximum Concentration Value in the Workplace; NDSL = Non-Domestic Substances List; NFPA = National Fire Protection Association; NOHSC = National Occupational Health & Safety Commission; NTP = National Toxicology Program; STEL = Short-term Exposure Limit; TDG = Transportation of Dangerous Goods; TLV = Threshold Limit Value; TSCA = Toxic Substances Control Act; TWA = Time Weighted Average

Literature References

Available on request.

End of Sheet