

SAFETY DATA SHEET

DRAFT VERSION

1. Identification

Product identifier Nukote Chemshield FC - Side A

Other means of identification None.

Recommended use Concrete Surface Protection. For further information, Refer to the Product Technical Data Sheet.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Nukote Coating Systems International Company name

4730 Consulate Plaza Dr. **Address**

Suite 100

Houston, TX. 77032

Telephone 832-770-7100

Email SDS@nukoteglobal.com

Chemtrec: 800-424-9300 (Account: CCN16118) or International: 703-527-3887 (Account: **Emergency Phone Number**

CCN16118)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2

> Serious eye damage/eye irritation Category 2A Sensitization, skin Category 1 Carcinogenicity Category 1A Specific target organ toxicity, repeated Category 1 (lung)

exposure

Environmental hazards Hazardous to the aquatic environment, acute Category 2

Hazardous to the aquatic environment,

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May

cause cancer. Causes damage to organs (lung) through prolonged or repeated exposure. Toxic to

Category 2

aquatic life with long lasting effects.

Precautionary statement

Nukote Chemshield FC - Side A

Obtain special instructions before use. Do not handle until all safety precautions have been read Prevention

> and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye

protection/face protection.

Response If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If

skin irritation or rash occurs: Get medical advice/attention. If in eves: 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. Take off contaminated clothing and wash before

reuse. Collect spillage.

Storage Store locked up.

Disposal

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.

3. Composition/information on ingredients

Mixtures

CAS number	%
25068-38-6	35 - 60
1344-28-1	20 - 35
67762-90-7	10 - 25
28064-14-4	0 - 25
14807-96-6	5 - 20
13463-67-7	1 - 10
14808-60-7	1 - 5
112945-52-5	0 - 5
	25068-38-6 1344-28-1 67762-90-7 28064-14-4 14807-96-6 13463-67-7 14808-60-7

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of

eczema or other skin disorders: Seek medical attention and take along these instructions. Wash

contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Provide eyewash station.

Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if

irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important

symptoms/effects, acute and

delayed

Causes skin irritation. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Discomfort in the chest. Shortness of breath. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

May cause cancer.

Indication of immediate medical attention and special

treatment needed

Provide general supportive measures and treat symptomatically. Keep victim under observation.

Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s)

(show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from

the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting

equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methodsUse standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. For waste disposal, see section 13 of the SDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Avoid release to the environment. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

Components	Туре	Value	
Crystalline Silica (CAS 14808-60-7)	TWA	0.05 mg/m3	
US. OSHA Table Z-1 Limits for Ai	r Contaminants (29 CFR 1910.	1000)	
Components	Туре	Value	Form
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m3	Total dust.
US. OSHA Table Z-3 (29 CFR 191	0.1000)		
Components	Туре	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	5 mg/m3	Respirable fraction
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction
Crystalline Silica (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.
Fumed Silica (CAS 112945-52-5)	TWA	0.8 mg/m3	
		20 mppcf	
Aagnesium Silicate (CAS 4807-96-6)	TWA	0.3 mg/m3	Total dust.
,		0.1 mg/m3 20 mppcf	Respirable.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Туре	Value	Form
		2.4 mppcf	Respirable.
Titanium dioxide (CAS 13463-67-7)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
US. ACGIH Threshold Limit Value	es		
Components	Туре	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.
Crystalline Silica (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.
Magnesium Silicate (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m3	
US. NIOSH: Pocket Guide to Che	mical Hazards		
Components	Туре	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.
Fumed Silica (CAS 112945-52-5)	TWA	6 mg/m3	
Magnesium Silicate (CAS 14807-96-6)	TWA	2 mg/m3	Respirable.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove

supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Wash hands thoroughly after handling. Use of an

impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Viscous liquid.
Color Ash Grey.
Odor Low.

Odor threshold Not available.
pH Not available.

Nukote Chemshield FC - Side A

Melting point/freezing point Not available.

Initial boiling point and boiling Not available.

range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

(%)

Not available.

Flammability limit - upper

(%)

Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 13.5 lb/gal (77 °F (25 °C))

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperatureNot available.Viscosity300000 cpsViscosity temperature77 °F (25 °C)

Other information

Explosive propertiesNot explosive. **Oxidizing properties**Not oxidizing.

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoidContact with incompatible materials. Avoid extremely high temperatures. Freezing temperatures.

Moisture.

Incompatible materials Acids. Chlorine.

Hazardous decomposition

products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause damage to organs through prolonged or repeated exposure by inhalation.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Causes skin irritation. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Discomfort in the chest. Shortness of breath. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic

effects. May cause cancer.

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction.

Components **Species Test Results**

Epoxy Resin (CAS 25068-38-6)

Acute

Dermal

LD50 Rat > 2000 mg/kg

Oral

LD50 Rat 15000 mg/kg

Magnesium Silicate (CAS 14807-96-6)

Acute Oral

> 5000 mg/kg LD50 Rat

Titanium dioxide (CAS 13463-67-7)

Acute

Inhalation

LC50 Rat 3.43 mg/l, 4 Hours

Oral

LD50 Rat > 5000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye

Causes serious eye irritation.

irritation

Respiratory or skin sensitization

Not a respiratory sensitizer. Respiratory sensitization

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

May cause cancer. Crystalline silica has been classified by IARC, NTP and ACGIH as a known Carcinogenicity

human carcinogen and suspected human carcinogen respectively.

IARC Monographs. Overall Evaluation of Carcinogenicity

Crystalline Silica (CAS 14808-60-7) 1 Carcinogenic to humans.

Fumed Silica (CAS 112945-52-5) 3 Not classifiable as to carcinogenicity to humans.

Magnesium Silicate (CAS 14807-96-6) 2B Possibly carcinogenic to humans.

3 Not classifiable as to carcinogenicity to humans.

Titanium dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

NTP Report on Carcinogens

Crystalline Silica (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7) Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

Not classified.

single exposure

Specific target organ toxicity -

repeated exposure

Causes damage to organs (lung) through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be

harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available. Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructionsCollect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN3082

UN proper shipping name

Environmentally hazardous substances, liquid, n.o.s.

Transport hazard class(es)
Class

Class 9
Subsidiary risk Label(s) 9
Packing group III
Environmental hazards

Marine pollutant Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions 8, 146, 335, IB3, T4, TP1, TP29

Packaging exceptions155Packaging non bulk203Packaging bulk241

IATA

UN number UN3082

UN proper shipping name Transport hazard class(es) Environmentally hazardous substance, liquid, n.o.s.

Class 9
Subsidiary risk Packing group III

Environmental hazards Yes
ERG Code 9L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN3082

UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Transport hazard class(es)

Class 9
Subsidiary risk Packing group III
Environmental hazards

Marine pollutant Yes EmS F-A, S-F

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and

the IBC Code

ording to Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7) Cancer

lung effects

immune system effects

kidney effects

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Yes

chemical

Classified hazard

Skin corrosion or irritation

categories

Serious eye damage or eye irritation Respiratory or skin sensitization

Carcinogenicity

Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name CAS number % by wt. Aluminum oxide 1344-28-1 20 - 35

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

Aluminum oxide (CAS 1344-28-1)

Crystalline Silica (CAS 14808-60-7)

Fumed Silica (CAS 112945-52-5)

Magnesium Silicate (CAS 14807-96-6)

Titanium dioxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

Aluminum oxide (CAS 1344-28-1)

Crystalline Silica (CAS 14808-60-7)

Magnesium Silicate (CAS 14807-96-6)

Titanium dioxide (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminum oxide (CAS 1344-28-1)

Crystalline Silica (CAS 14808-60-7)

Fumed Silica (CAS 112945-52-5)

Magnesium Silicate (CAS 14807-96-6)

Titanium dioxide (CAS 13463-67-7)

US. Rhode Island RTK

Aluminum oxide (CAS 1344-28-1)

Crystalline Silica (CAS 14808-60-7)

Magnesium Silicate (CAS 14807-96-6)

Titanium dioxide (CAS 13463-67-7)

California Proposition 65



WARNING: This product can expose you to chemicals including Titanium dioxide: Crystalline Silica, which are known to the State of California to cause cancer. For more information go

to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Crystalline Silica (CAS 14808-60-7) Listed: October 1, 1988
Titanium dioxide (CAS 13463-67-7) Listed: September 2, 2011

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Crystalline Silica (CAS 14808-60-7) Magnesium Silicate (CAS 14807-96-6) Titanium dioxide (CAS 13463-67-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

Taiwan Chemical Substance Inventory (TCSI)

16. Other information, including date of preparation or last revision

Issue dateDraft version.Revision dateDraft version.

Version # 01

Further information HMIS Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic

hazard

NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

HMIS® ratings Health: 3*

Flammability: 0 Physical hazard: 0

NFPA ratings

Taiwan



Disclaimer

NuKote Coating Systems cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Nukote Chemshield FC - Side A SDS US

Yes

Yes

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



SAFETY DATA SHEET

DRAFT VERSION

1. Identification

Product identifier Nukote Chemshield FC - Side B

Other means of identification

Chemical identifier

(Diethylenetriamine, m-Phenylenebis(methylamine))

(Transport)

Recommended useSurface Protection. For Further Information, Refer to the Product Technical Data Sheet.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Supplier

Company name Nukote Coating Systems International

Address 4730 Consulate Plaza Dr.

Suite 100

Houston, TX. 77032

Telephone 832-770-7100

Email SDS@nukoteglobal.com

Emergency Phone Number Chemtrec: 800-424-9300 (Account: CCN16118) or International: 703-527-3887 (Account:

CCN16118)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 4

Acute toxicity, dermal

Skin corrosion/irritation

Serious eye damage/eye irritation

Sensitization, skin

Reproductive toxicity

Category 1

Category 1

Category 2

Environmental hazards Hazardous to the aquatic environment, acute Category 3

hazard

Hazardous to the aquatic environment,

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Harmful if swallowed. 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. Harmful

Category 3

to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.

If exposed or concerned: Get medical advice/attention, If swallowed: Rinse mouth, Do NOT Response

induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin

with water/shower. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. If inhaled: Remove person to fresh air and keep comfortable

for breathing. 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.

Storage Store locked up.

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Isophorone diamine	2855-13-2	
Diethylenetriamine	111-40-0	10 - 30
m-Phenylenebis(methylamine)	1477-55-0	9 - 15
4,4'-isopropylidenediphenol	80-05-7	6 - 16
Benzyl alcohol	100-51-6	5 - 10

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Call a physician

or poison control center immediately. Chemical burns must be treated by a physician. Wash

contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if

present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If

vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and

delayed

Harmful if swallowed. Nausea, vomiting. Harmful in contact with skin. Coughing. Difficulty in breathing. Causes severe skin and eye burns. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause an allergic skin reaction. Rash. Dermatitis. Suspected of damaging fertility or the unborn child.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Ingestion

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam. Powder. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Unsuitable extinguishing media

Specific hazards arising from During fire, gases hazardous to health may be formed.

the chemical

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Use water spray to reduce vapors or divert vapor cloud drift. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

Value

Value

Conditions for safe storage, including any incompatibilities

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

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values	S
Components	

Diethylenetriamine (CAS	TWA	1 ppm
111-40-0) m-Phenylenebis(methylami ne) (CAS 1477-55-0)	Ceiling	0.1 mg/m3

Type

US. NIOSH: Pocket Guide to Chemical Hazards Components Type

Diethylenetriamine (CAS 111-40-0)	TWA	4 mg/m3
,		1 ppm
m-Phenylenebis(methylami	Ceiling	0.1 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	туре	value
Benzyl alcohol (CAS 100-51-6)	TWA	44.2 mg/m3
		10 nnm

Biological limit values

ne) (CAS 1477-55-0)

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Diethylenetriamine (CAS 111-40-0) Can be absorbed through the skin. m-Phenylenebis(methylamine) (CAS 1477-55-0) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Diethylenetriamine (CAS 111-40-0) Skin designation applies.

US - Tennessee OELs: Skin designation

m-Phenylenebis(methylamine) (CAS 1477-55-0)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Diethylenetriamine (CAS 111-40-0)

Can be absorbed through the skin.

m-Phenylenebis(methylamine) (CAS 1477-55-0)

Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Diethylenetriamine (CAS 111-40-0)

m-Phenylenebis(methylamine) (CAS 1477-55-0)

Can be absorbed through the skin.

Can be absorbed through the skin.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove

supplier.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Liquid.

Color Straw to Yellow.

Odor Strong ammonia.

Odor threshold Not available.

PH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling Not available.

range

Flash point > 203.0 °F (> 95.0 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit - upper

Not available.

(%)

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density 9.01 lb/gal (77 °F (25 °C))

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperatureNot available.Decomposition temperatureNot available.Viscosity4000 cpsViscosity temperature77 °F (25 °C)

Other information

Explosive properties Not explosive. **Oxidizing properties** Not oxidizing.

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous

reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong acids. Alkaline metals. Peroxides. Phenols. Hazardous decomposition No hazardous decomposition products are known.

products

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system.

Skin contact Causes severe skin burns. Harmful in contact with skin. May cause an allergic skin reaction.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Harmful if swallowed. Nausea, vomiting. Harmful in contact with skin. Coughing. Causes severe skin burns and eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause allergic skin reaction. Rash. Dermatitis. Suspected of damaging fertility or the unborn child.

Information on toxicological effects

Acute toxicity Harmful in contact with skin. Harmful if swallowed. May cause an allergic skin reaction. Causes

burns.

Components Species Test Results

4,4'-isopropylidenediphenol (CAS 80-05-7)

Acute Dermal

LD50 Rabbit 3000 mg/kg

Oral

LD50 Rat 3300 - 4100 mg/kg

Benzyl alcohol (CAS 100-51-6)

<u>Acute</u>

Dermal

LD50 Rabbit 2000 mg/kg

Inhalation

LC50 Rat 8.8 mg/l, 4 Hours

Oral

LD50 Rat 1230 - 3100 mg/kg

Diethylenetriamine (CAS 111-40-0)

<u>Acute</u>

Dermal

LD50 Rabbit 550 mg/kg

Components Species Test Results

Oral

LD50 Rat 1080 mg/kg

Isophorone diamine (CAS 2855-13-2)

Acute Oral

LD50 Rat 1030 mg/kg

m-Phenylenebis(methylamine) (CAS 1477-55-0)

Acute Dermal

LD50 Rabbit 2000 mg/kg

Inhalation

Aerosol

LC50 Rat 3.75 mg/l, 1 Hours

Oral

LD50 Rat 930 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye

Causes serious eye damage.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components Species Test Results

4,4'-isopropylidenediphenol (CAS 80-05-7)

Aquatic

Acute

Crustacea EC50 Daphnia magna 10.2 mg/l, 48 Hours
Fish LC50 Pimephales promelas 4.6 mg/l, 96 Hours

Chronic

Crustacea NOEC Daphnia magna > 3.146 mg/l, 21 days

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

4,4'-isopropylidenediphenol (CAS 80-05-7) 3.32 Benzyl alcohol (CAS 100-51-6) 11

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow

this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches

with chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Since emptied containers may retain product residue, follow label warnings even after container is Contaminated packaging

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN2735 **UN number**

UN proper shipping name

Polyamines, liquid, corrosive, n.o.s. (Diethylenetriamine, m-Phenylenebis(methylamine))

Transport hazard class(es)

8 Class Subsidiary risk 8 Label(s) Ш Packing group

Environmental hazards

Marine pollutant Yes

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

B2, IB2, T11, TP1, TP27 Special provisions

Packaging exceptions 154 Packaging non bulk 202 242 Packaging bulk

IATA

UN number UN2735

UN proper shipping name Polyamines, liquid, corrosive, n.o.s. (Diethylenetriamine, m-Phenylenebis(methylamine))

Transport hazard class(es)

8 Class Subsidiary risk 8 Label(s) Ш Packing group **Environmental hazards**

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN2735 **UN number**

UN proper shipping name

Transport hazard class(es)

Polyamines, liquid, corrosive, n.o.s. (Diethylenetriamine, m-Phenylenebis(methylamine))

Class 8 Subsidiary risk Ш **Packing group Environmental hazards**

Yes Marine pollutant **EmS** F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not established.

General information

Packing group was assigned based on the assessment of the components. Diethylenetriamine (CAS 111-40-0) and m-Phenylenebis(methylamine) (CAS 1477-55-0) are contributing to the mixture classification. Isophorone diamine (CAS 2855-13-2) is assigned packing group III and does not contribute to the overall packing group assignment.

Packing Group Assignment Based on Corrosivity

Packing Group	Exposure Time	Observation Time	Effect
1	≤3 min	≤ 60 min	Full thickness destruction of intact skin
II	> 3 min ≤ 60	≤ 14 days	Full thickness destruction of intact skin
III	> 60 min ≤ 4 hours	≤ 14 days	Full thickness destruction of intact skin

Packing Group Assignment Based on Components

CAS No	Chemical Name	Concentration	Proper Shipping Name
111-40-0	Diethylenetriamine	10-30%	UN2079 Diethylenetriamine, 8, II
1477-55-0	m-Phenylenebis(methylamine)	9-15%	GHS: Skin Corr. 1B => UN2735 Amines, liquid, corrosive, n.o.s., 8, II
2855-13-2	Isophorone diamine	19-45%	UN2289 Isophoronediamine, 8, III
Mixture	Nukote Chemshield FC - Side B	100%	UN2735 Polyamines, liquid, corrosive, n.o.s. (Diethylenetriamine, m- Phenylenebis(methylamine)), 8, II

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

4,4'-isopropylidenediphenol (CAS 80-05-7)

Bisphenol A Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

4,4'-isopropylidenediphenol (CAS 80-05-7)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Yes

chemical

Acute toxicity (any route of exposure)

Classified hazard categories

Skin corrosion or irritation

Serious eye damage or eye irritation Respiratory or skin sensitization

Reproductive toxicity

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	
4.4'-isopropylidenediphenol	80-05-7	6 - 16	

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

4.4'-isopropylidenediphenol (CAS 80-05-7)

Benzyl alcohol (CAS 100-51-6) Diethylenetriamine (CAS 111-40-0)

m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. New Jersey Worker and Community Right-to-Know Act

4,4'-isopropylidenediphenol (CAS 80-05-7)

Diethylenetriamine (CAS 111-40-0)

Isophorone diamine (CAS 2855-13-2)

m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. Pennsylvania Worker and Community Right-to-Know Law

4,4'-isopropylidenediphenol (CAS 80-05-7)

Benzyl alcohol (CAS 100-51-6)

Diethylenetriamine (CAS 111-40-0)

m-Phenylenebis(methylamine) (CAS 1477-55-0)

US. Rhode Island RTK

Diethylenetriamine (CAS 111-40-0)

m-Phenylenebis(methylamine) (CAS 1477-55-0)

California Proposition 65



WARNING: This product can expose you to 4,4'-isopropylidenediphenol, which is known to the State of

California to cause birth defects or other reproductive harm. For more information go

to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Female reproductive toxin

4,4'-isopropylidenediphenol (CAS 80-05-7) Listed: May 11, 2015

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

4,4'-isopropylidenediphenol (CAS 80-05-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

^{*}A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date Draft version. Draft version. **Revision date**

Version # 04

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

Further information HMIS Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic

hazard

NFPA Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

NFPA hazard Scale. 0 - Millimal 1 - Slight 2 - Moderate 3 - Serious 4 - Seven

Health: 3* Flammability: 0 Physical hazard: 0

NFPA ratings

HMIS® ratings



Disclaimer

NuKote Coating Systems cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.