SAFETY DATA SHEET
FORTICOAT 55

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

1. Identification

Product identifier

Product name Forticoat 55

Recommended use of the chemical and restrictions on use

Application Coating

Uses advised against No specific uses advised against are identified

Details of the supplier of the safety data sheet

Manufacturer FortiSystems
16601 Central Green Blvd. Ste. 100
Houston, TX 77032 USA
T: 833.840.2777

Emergency telephone number

Emergency telephone 832.922.2926

2. Hazard(s) identification

Hazard Classification

GHS classification in accordance with 29 CFR 1910.1200
Not a hazardous substance or mixture.

Other hazards

This product does not contain any substances classified as PBT or vPvB.

3. Composition/information on ingredients

Mixtures

Titanium dioxide CAS number: 13463-67-7	1 - <15%
Zinc oxide CAS number: 1314-13-2	0 - <0.5%
Aluminum hydroxide CAS number: 21645-51-2	0 - <15%
Ammonia	<1%

CAS number: 1336-21-6 <1%

Biocide - withheld as TRADE SECRET
CAS number: Proprietary <1%

Composition comments The exact percentage is withheld as a trade secret in accordance with 29 CFR 1910.1200
The product identifiers are withheld as a trade secret in accordance with 29 CFR 1910.1200

4. First-aid measures

Description of first aid measures

General information Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.

Inhalation Move affected person to fresh air.

Ingestion Rinse mouth thoroughly with water. Give 1 to 2 glasses of water. Consult a physician if necessary. Never give anything by mouth to an unconcious person.

Eye contact Rinse with plenty of water. If eye irritation persists, consult a specialist.

Protection of first aiders First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important systems and effects are described in Section 11: Toxicology Information

Indication of immediate medical attention and special treatment needed

Notes for the doctor Treatment should be directed at preventing absorption, administerint to systems (if they offur), and providing supportive therapy

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

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

Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products Thermal decomposition or combustion products may include the following substances:
Carbon dioxide (CO2. Carbon monoxide (CO). Acrylic monomers. Harmful gases or vapors.

Advice for firefighters

Protective actions during firefighting Avoid breathing fire gases or vapors. Evacuate the area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Forticoat 55

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

Environmental precautions

Environmental precautions	CAUTION: Keep spills and cleaning rumoff out of municipal sewers and open bodies of water.

Methods and material for containment and cleaning up

Methods for cleaning up	Contain spills immediately with inert material, (e.g. sand, earth). Transfer spilled material to suitable containers for recovery or disposal.

7. Handling and storage

Precautions for safe handling

Usage precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. May cause cancer. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.
Advice on general occupational hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

Conditions for safe storage, including any incompatibilities

Storage precautions	Store away from incompatible materials (see Section 10). Store locked up. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.
Storage class	Miscellaneous hazardous material storage.
Shelf-Life	12 months
Storage temperature	Minimum storage temperature: 1°C/33.8°F Maximum storage temperature: 49°C/120.2°F

Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

Forticoat 55

Comments The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Aluminum Trihydroxide

Long-term exposure limit (8-hour TWA): OSHA 10 mg/m³	respirable fraction
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³	total dust

Titanium dioxide

Long-term exposure limit (8-hour TWA): ACGIH 10 mg/m³ A4	
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³	total dust

Zinc oxide

Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³	fume
Long-term exposure limit (8-hour TWA): OSHA 15 mg/m³	total dust
Long-term exposure limit (8-hour TWA): ACGIH 2 mg/m	respirable fraction
Short-term exposure limit (15-minute): ACGIH 10 mg/m³	respirable fraction
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³	respirable fraction

Aluminum hydroxide

Long-term exposure limit (8-hour TWA): ACGIH 1 mg/m³
A4

Ammonia

Long-term exposure limit (8-hour TWA): ACGIH 25 ppm 17 mg/m³ Short-term exposure limit (15-minute): ACGIH 35 ppm 24 mg/m³
Long-term exposure limit (8-hour TWA): OSHA 50 ppm 35 mg/m³

Biocide - withheld as TRADE SECRET

Long-term exposure limit (8-hour TWA): ACGIH 10 mg/m³ A4

Titanium Dioxide (CAS: 13463-67-7)

Immediate danger to life and health	5000 mg/m³

Zinc oxide (CAS: 1314-13-2)

Immediate danger to life and health	500 mg/m³

Ammonia (CAS: 1336-21-6)

Immediate danger to life and health	300 ppm

Exposure controls

Protective equipment

Appropriate engineering controls Provide adequate ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Forticoat 55

Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved.
Environmental exposure controls	Keep container tightly sealed when not in use.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Various colors.
Odor	Mild. Amine.
Odor threshold	Not available.
pH	Not available.
Melting point	0°C (as water)
Initial boiling point and range	100°C (boiling point of water)
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapor pressure	17 mm Hg @ 20°C/68°F
Vapor density	Not available.
Relative density	Not available.
Specific Gravity	1.2 – 1.5
Partition coefficient	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
Volatile organic compound	<50g/liter

Forticoat 55

10. Stability and reactivity

Reactivity	See the other subsections of this section for further details.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions	No potentially hazardous reactions known.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity – oral

Notes (oral LD)	Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD)	Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC)	Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation	Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation	Based on available data the classification criteria are not met.

Respiratory sensitization

Respiratory sensitization	Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization	Based on available data the classification criteria are not met. The product contains a small amount of sensitizing substance. May cause skin sensitization or allergic reactions in sensitive individuals.

Germ cell mutagenicity

Genotoxicity - in vitro	Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity	Based on available data criterial are not met.
IARC carcinogenicity	Contains a substance/a group of substances which may cause cancer. IARC Group 1 Carcinogenic to humans.
NTP carcinogenicity	Contains: Silica, Crystalline (Respirable Size) Known human carcinogen.

Reproductive toxicity

Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.

Forticoat 55

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met

Inhalation With proper ventilation single exposure is not expect to cause adverse effects.

Ingestion Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin contact Discoloration of the skin. Prolonged contact may cause redness, irritation and dry skin.

Eye contact May cause temporary eye irritation.

Route of entry Ingestion, Inhalation, skin and/or eye contact.

Target organs No specific target organs known.

12. Ecological information

Toxicity The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Persistence and degradability

Persistence and degradability The degradability of the product is not known.

Bio-accumulative potential

Bio-accumulative potential No data available on bioaccumulation.

Partition coefficient Not available.

Mobility in soil

Mobility No data available.

Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN Number

Forticoat 55

Not applicable.

UN proper shipping name
Not applicable.

Transport hazard class(es)
No transport warning sign required.

Packing group
Not applicable.

Environmental hazards
Environmentally Hazardous Substance

No.

Special precautions for user
Not applicable.

DOT TIH Zone	Not applicable.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Regulatory Status	Classified in accordance with Appendix A, Appendix B and Appendix F of the OSHA Hazard Communication Standard 29 CFR § 1910.1200
Regulatory References	OSHA Hazard Communication Standard 29 CFR §1910.1200

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
The following ingredients are listed or exempt:

Ammonia
Final CERCLA RQ: 1000(454) pounds (Kilograms)

methyl benzimidazol-2-yl carbamate
Final CERCLA RQ: 10(4.54) pounds (Kilograms)

Biocide - withheld as TRADE SECRET
Final CERCLA RQ: 100(45.4) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.

SARA 313 Emission Reporting
The following ingredients are listed or exempt:

Ammonia
1.0%

Zinc oxide
1.0%

Biocide - withheld as TRADE SECRET

Forticoat 55

1.0%

Biocide - withheld as TRADE SECRET
1.0%

CAA Accidental Release Prevention
None of the ingredients are listed or exempt.

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
The following ingredients are listed or exempt:

Benzophenone
Known to the State of California to cause cancer.

Silicon dioxide
Known to the State of California to cause cancer.

Titanium Dioxide
Known to the State of California to cause cancer.

Biocide - withheld as TRADE SECRET
Known to the State of California to cause cancer.

California Air Toxics "Hot Spots" (A-I)
The following ingredients are listed or exempt:

Zinc oxide

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
The following ingredients are listed or exempt:

Ammonia

Biocide - withheld as TRADE SECRET

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

Ammonia

Quartz (Si02)

Titanium Dioxide

Zinc oxide

Biocide - withheld as TRADE SECRET

Forticoat 55

Rhode Island "Right To Know" List
The following ingredients are listed or exempt:

Benzophenone

Limestone

Titanium Dioxide

Zinc oxide

Propane-1,2-diol

Biocide - withheld as TRADE SECRET

Minnesota "Right To Know" List
The following ingredients are listed or exempt:

Benzophenone

Limestone

Titanium Dioxide

Zinc oxide

Propane-1,2-diol

Biocide - withheld as TRADE SECRET

New Jersey "Right To Know" List
The following ingredients are listed or exempt:

Ammonia

Limestone

Titanium Dioxide

Zinc oxide

Propane-1,2-diol

Biocide - withheld as TRADE SECRET

methyl benzimidazol-2-yl carbamate

Biocide - withheld as TRADE SECRET

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:

Ammonia

Limestone

Titanium Dioxide

Zinc oxide

Propane-1,2-diol

Biocide - withheld as TRADE SECRET

Inventories

US – TSCA
All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification
None of the ingredients are listed or exempt.

Forticoat 55

Note:	Based on information provided by our suppliers, this product is considered “DRC Conflict Free” as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7- 40-10; Date: 2012-08-22).

16. Other information

Classification abbreviations and acronyms	Carc. = Carcinogenicity
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Revision date	4/3/2017
Revision	2
Supersedes date	6/30/2016
SDS No.	5533
Hazard statements in full	H350 May cause cancer.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.