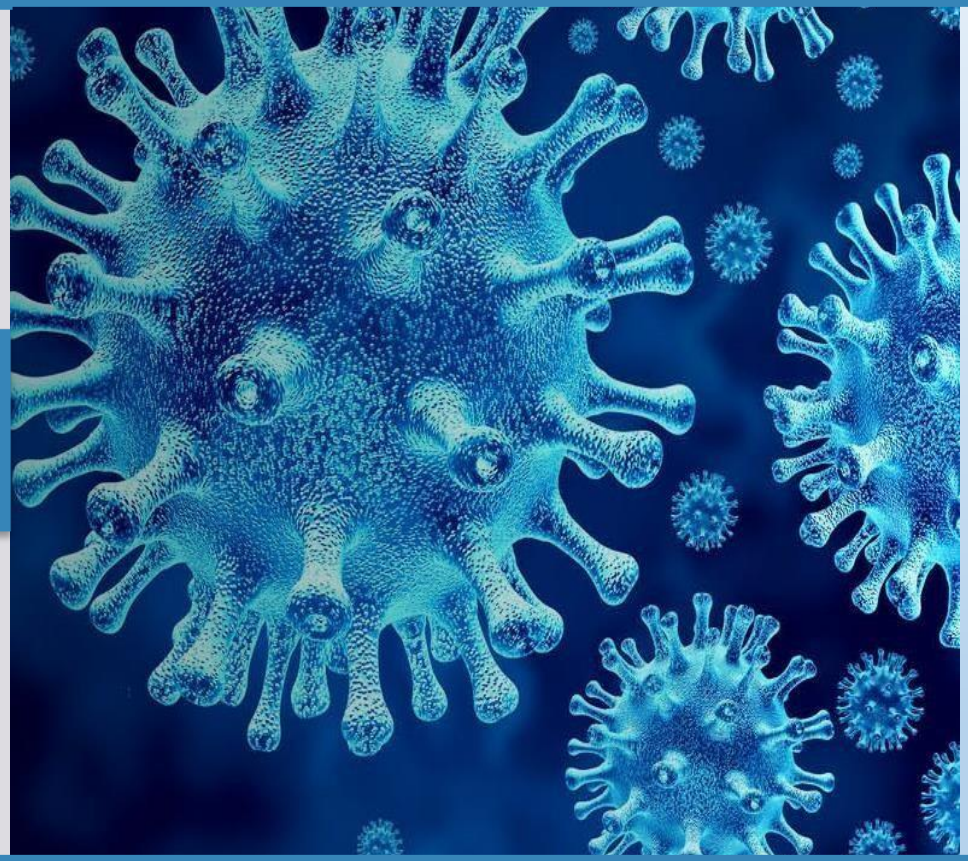
MAAK ANTIVIRAL PROTECTION

ADVANCED PROTECTION



Advanced Antiviral & Antibacterial Protection for Paper & Boards

SWISS TECHNOLOGY INSIDE

CONSUMER CONCERNS TODAY

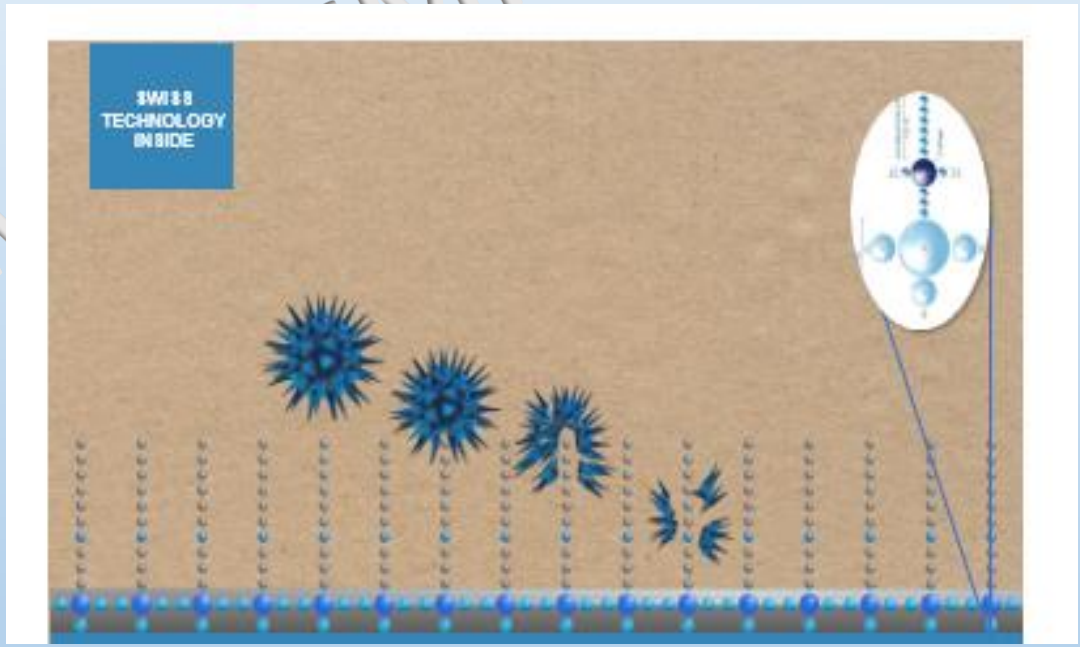
- Consumers have **become much more aware of how infectious viruses and dangerous microbes spread due to COVID-19 pandemic.**
- **Consumers are taking preventive measures to protect themselves & their families.**
- **Many studies confirm that consumers are feeling anxious, sad, scared, and overwhelmed.**
- **MAAK takes care of all the above concerns through its anti viral fighting abilities.**

CONSUMER DEMAND FOR ANTIVIRAL

- The Covid-19 Pandemic has thrown up challenges to mankind in almost all spheres of life.
- The major challenge being the prevention of transmission of infections from various surface like Interior hard surfaces, textiles, paper products, Wooden and plywood surfaces etc (Herein after referred to as SURFACES).
- Day to day interactions with above surfaces have surprisingly gone up, due to unavoidable touch from persons who may be carrying the Covid-19 virus.
- The awareness for hygiene has increased considerably.
- The above surfaces provide a large hosting surface area for viruses
- After the coronavirus lockdown, personal protection is a topic of discussion as life carefully returns to normal.

HOW MAAK ANTIVIRAL PROTECTION WORKS

- **MAAK ANTIVIRAL PROTECTION is a custom blend of Sanitized T20-19, a patented Swiss quaternary silane technology.**
- **Creates a highly-cationic charge density on the treated surface, deactivating the spread of the virus on contact.**
- **Acts quickly to prevent the transmission of enveloped and non-enveloped viruses**
- **Provides antiviral protection**
- **Provides antibacterial protection.**



HOW MAAK ANTIVIRAL PROTECTS THE WORLD FROM COVID-19

TOUCH – 1
During
Handling/Storage

TOUCH – 2
During
Loading/Delivery

TOUCH – 3
During
Un Loading/ Handling/Storage

TOUCH – 4
During Packing
And Dispatch

TOUCH – 5
During Delivery

TOUCH – 6
When Received
By End Customers

TOUCH – 7
When Stored in
customer Location

TOUCH – 8
When Disposed

TOUCH – 9
When Taken thro –
Recycle Process

TOUCH – 10
When it goes back
Into pulp process

BAG/BOX
PAPER PRODUCT COATED WITH MAAK ANTIVIRAL

HOW MAAK ANTIVIRAL PROTECTS THE WORLD FROM COVID-19

LIFE OF THIS ANTIVIRAL COATING IS AS LONG AS THE COATED SURFACE EXISTS .
THE CORONAVIRUS STARTS GETTING KILLED FROM THE 10^{TH} MINUTE AND 99.2% OF THE VIRUS IS KILLED BY THE 30^{TH} MINUTE.
THIS "KILL CYCLE" ENSURES THAT THE VIRUS DOES NOT PROPOGATE ITSELF DURING THE LIFE CYCLE OF THE COATED SURFACES, THEREBY MINIMIZING THE SPREAD OF VIRUS FROM PERSON TO PERSON.

A SMALL CONTRIBUTION
FROM
MAAK IMPEX FOR A SAFER WORLD

Consumer Friendly &
Environmentally Safe

Fast Facts

Custom Blend of Sanitized® T20-19	Acts quickly to prevent transmission of virus	Non Metal
Patented Quat Silane Technology	Resists Microbial Development	Sustainable
Non-Leaching	High Cationic charge density	Suitable for different types of paper boards

SWISS TECHNOLOGY INSIDE

MAAK ANTIVIRAL PROTECTION

Global Registration & Compliance

- In compliance with the requirements of the
  - BPR: Regulation (EU) No 528/2012 (the Biocidal Products Regulation, BPR).
  - REACH: Regulation (EC) No 1907/2006 (REACH)
- Registered with the U.S. Environmental Protection Agency as Sanitized® Brand T 20-19
- Compliance for Bluesign, Oeko-Tex and ZDHC MRSL.
- The active substance is AOX-free and is readily degradable in biological waste water plants according to OECD 301A
- The treated articles were tested for skin sensitisation according to the international norm OECD 406 and passed successfully the Repeated Insult Patch Test (RIPT)

MAAK ANTIVIRAL PROTECTION

Claims & Compliance

- MAAK ANTIVIRAL PROTECTION is a performance-based trademark.
- MAAK ANTIVIRAL PROTECTION is fast-acting antiviral and antibacterial agent and the treated articles performance verified to qualify to use the MAAK ANTIVIRAL PROTECTION trademark.
- Testing for MAAK ANTIVIRAL PROTECTION the trademark utilizes AATCC-100 modified for viruses.

MAAK ANTIVIRAL PROTECTION Benefits

- Swiss Antimicrobial Technology with all the safety and compliance certificates.
- Doesn’t change mechanical or visual properties of the coated surface.
- Antiviral
- Antibacterial
- Safe to touch
- Safe for the Environment
- Swiss Technology
- Peace of Mind
- Trust of the customer

SWISS TECHNOLOGY INSIDE

MAAK ANTIVIRAL PROTECTION

ApplicationAreas

- All Paper Products like boxes, bags, News print, Text books etc.,
- Plywood boxes and products
- Pinewood boxes and Products
- Interior surfaces such as Table tops, desk, chairs, Wooden counters, walls etc.,

MAAK ANTIVIRAL PROTECTION

FORM NO: 10-A001
Rev No : 02
Date : JULY 2020

SAFETY DATA SHEET

COMPANY

1. IDENTIFICATION OF THE PRODUCT AND

1.1. Product identifier	**MAAK ANTIVIRAL PROTECTION**
1.2. Relevant identified uses of the substance or mixture and uses advised against	**Antibacterial and Antiviral finish for textiles.**

2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture*	Product is a Mixture. Non- flammable, Non-dangerous. Not a dangerous substance according to GHS. It is a corrosive liquid and can cause irritation.	
*Regulation (EC) No. 1907/2006 REACH and as per DPD: Directive 1999/45/EC		
2.2 Hazard statement		
Signal word	Danger	
GHS symbol  Hazard statement	Health hazard - **H315** – Causes skin irritation. **H317** – May cause an allergic skin reaction. **H318** – Causes serious eye damage. Hazard category – 1A	
2.3. Label elements**	The product need not be labeled in accordance with EC directives	
**Classification and marking according to Regulation (EC) No. 1272/2008 REACH		
2.4. Other hazards	**HMIS CLASSIFICATION** Health Hazard: 1 Flammability: 0 Physical Hazards: 0	**NFPA RATING** Health Hazard: 1 Fire: 0 Reactivity Hazard: 0

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3.COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical Identity	An aqueous suspension of Quaternary ammonium-silane
3.2 C.A.S No of active ingredient	41591-87-1

4.FIRST AID MEASURES:

4.1. Description of first aid measures	In all cases of doubt, or when symptoms persist, seek medical advice. If unconscious place in recovery position and seek medical advice. In case of unconsciousness give nothing by mouth, place in recovery position and seek medical advice. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.
4.2. Skin	Take off immediately all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. Do not use solvents or thinners.
4.3. Eyes	Keep eyelids open, wash out with plenty of clean, fresh water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.
4.4. Inhalation	Remove casualty to fresh air and keep warm and at rest. In case of irregular breathing or respiratory arrest provide artificial respiration. No mouth-to-mouth or mouth-to- nose resuscitation. Use Ambu bag or ventilator.
4.5. Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Seek medical advice immediately. Keep victim calm. Do NOT induce vomiting.

5.FIRE FIGHTING MEASURES

5.1. Extinguishing media	Water spray jet, Foam, Carbon dioxide, Extinguishing powder.
5.2. Special exposure hazards / unusual hazards	Dense black smoke occurs during fire. Inhaling hazardous decomposing products can cause serious health damage.
5.3. Advice for firefighters	Wear a self-contained breathing apparatus and chemical protective clothing. Cool closed containers that are near the source of the fire. Do not allow water used to extinguish fire to enter drains, ground or waterways.
5.4 Unsuitable extinguishing media	Strong water jet.

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6.ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions	Wear personal protective suits. Chemical goggles or full faced shield. Chemical resistant rubber or neoprene gloves, NIOSH approved positive pressure air supplied respirator Avoid contact with eyes and skin. Avoid breathing dust/fume/gas/mist/vapours/spray.
6.2. Environmental precautions	Observe local byelaws. Do not allow to enter into surface water or drains. If the product contaminates lakes, rivers or sewages, inform competent authorities in accordance with local regulations.
6.3. Clean up procedure	For small spills use Mop, wipe or soak with cloth or absorbents. E.g. sand, kieselguhr saw dust, etc and dispose according to regulations. Large spills should be contained to prevent spreading. Do not allow product to enter lakes, sewers, streams, ponds, estuaries, oceans, or other waters unless permitted by law.
6.4 Reference to other sections	Prevent spreading over wide area (by containment)

7.HANDLING AND STORAGE

7.1. Advice on safe Handling	General ventilation is required. Avoid contact with eyes and skin. Avoid breathing dust/fume/gas/mist/vapours/spray. Provide for sufficient ventilation; if possible, use resp. install internal exhaust systems. When using do not eat, drink or smoke. Take off immediately all contaminated clothing. Thorough skin- cleansing after handling the product
7.2. Conditions for safe storage	Store in a well-ventilated and dry room at temperatures between 10 °C and 30 °C. Protect from heat and direct sunlight. Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Keep/Store only in original container.
7.3. Incompatible packaging materials.	Advised to use original containers only. Avoid materials prone for rusting. Do not store together with: Alkali (lye), Oxidizing agent, Reducing agent.

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8.EXPOSURE CONTROLS AND PERSONAL PROTECTION

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8.1. Exposure controls	Engineering controls: Use mechanical local exhaust at point of vapor or mist release. Ensure that existing ventilation is sufficient to prevent exceeding the recommended PEL/ TLV levels.
Personal protective equipment	
Respiratory protection	Generally, not required. In the case of aerosol-mist formation protection is essential. Where adequate ventilation is not available, use NIOSH- approved respirator with organic filter.
Hand protection	For prolonged or repeated handling, the following glove material must be used: NBR (Nitrile rubber). Thickness of the glove material > 0,4 mm; Breakthrough time (maximum wearing time) > 480 min
Eye protection	Goggles giving full protection required.
Hygiene measures	After contact clean skin thoroughly with water and soap or use appropriate cleanser. Immediately remove any contaminated clothing, shoes or stockings.

9.PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties	
Form	Liquid
Color	Off white to white
Odor	Characteristic
pH (1% diluted) at 25deg C	NA
pH at 25 deg C	7.0 – 9.0
Boiling point	100 degree Celsius.
Melting point	Not applicable , N/E
Flash point	Not applicable
Flammability	Nonflammable
Auto flammability of active ingredients	N/E
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Vapor pressure	N/E
Specific gravity	Approx. 1.0.
Solubility in water	miscible
Solids in %	Approx. 4 wt %
Organic solvent	Approx 5 wt %
Water	91 wt %

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9.2. Other Information	
Vapor density	Not determined
Evaporation rate, (Butyl acetate =1)	Not determined
Conductivity	Not determined
	Not determined

10. STABILITY AND REACTIVITY

If stored and handled in accordance with standard industrial practice no hazardous reactions are known.

10.1. Stability	Stable under NTP, sensitivity to light prior to curing on textiles or other substrates.
10.2. Reactivity	No specific hazard to be mentioned
10.3. Possibility of hazardous reactions	Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions
10.4. Conditions to avoid	Protect from heat and direct sunlight
10.5. Materials to avoid contact	No incompatible chemicals known.
10.6. Hazardous decomposition	Hazardous decomposition by products may form with exposure to high temperatures.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects	
On Skin	Causes skin burns. May cause an allergic skin reaction.
Eyes	Causes serious eye damage.
Ingestion	Oral, LD50, Rat: > 5000 mg/kg.
Other effects	No data available
Chronic health effects	No data available
Teretogenecity	Reproductive toxicity No indications of human reproductive toxicity exist. Germ cell mutagenicity; evaluation: No indications of human germ cell mutagenicity exist.
Carcinogenic	Carcinogenicity: No indications of human carcinogenicity exist.

9.1. Information on basic physical and chemical properties	
Form	Liquid
Color	Off white to white
Odor	Characteristic
pH (1% diluted) at 25deg C	NA
pH at 25 deg C	7.0 – 9.0
Boiling point	100 degree Celsius.
Melting point	Not applicable , N/E
Flash point	Not applicable
Flammability	Nonflammable
Auto flammability of active ingredients	N/E
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Vapor pressure	N/E
Specific gravity	Approx. 1.0.
Solubility in water	miscible
Solids in %	Approx. 4 wt %
Organic solvent	Approx 5 wt %
Water	91 wt %

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12.ECOLOGICAL INFORMATION

12.1. Toxicity	Fish toxicity, LC50, Oncorhynchus mykiss (Rainbow trout): 1.73 mg/l
12.2. Persistence & degradability	Toxicological data are not available.
12.3. Bioaccumulative potential	Toxicological data are not available.
12.4. Mobility	Toxicological data are not available.
12.5. Behaviour in sewage	Toxicological data are not available.
12.6. Other adverse effects	The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII

13.DISPOSAL CONSIDERATIONS

13.1. Waste treatment method	
Product disposal	Do not allow to enter into surface water or drains. This material and its container must be disposed of in a safe way. Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste. Observe in addition any national regulations.
Packaging disposal	Handle contaminated packages in the same way as the substance itself.

14.TRANSPORT INFORMATION

14.1 Classification for ROAD and Rail transport: Proper shipping name	Corrosive, Irritant symbol
UN number	Not applicable
Class	Not applicable
Packing group	Not applicable
14.2 Classification for SEA transport (IMO-IMDG): Proper shipping name	Corrosive , Irritant
14.3 Classification for AIR transport (IATA/ICAO): Proper shipping name	Corrosive , Irritant

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15. REGULATORY INFORMATION

15.1. Health and safety Information	Precautionary Statements **P261** - Avoid breathing vapors **P280** -Wear protective gloves/protective clothing **P302 + P352** - IF ON SKIN: Wash with plenty of soap and water **P305 +P351+P338**: IF IN EYES: : Rinse cautiously with water for several minutes. Remove contact lenses, if present and Continue rinsing. **P310** - Immediately call a POISON CENTER or doctor/ physician. **P501** -Dispose of contents/container to industrial incineration plant
15.2 Product Risk classification	
Product Risk Phrase	**Risk phrase applicable are as follows** 1.R36 - irritating to eyes 2.R43 - May cause sensitization by skin contact. 3.R41 - Risk of serious damage to eyes. 4. R52 - Harmful to aquatic organisms
15.3 Product safety phrase	**Safety phrases are as follows** 1 S2 -Keep out of the reach of children 2.S3/7-Keep container tightly closed in a cool place 3.S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice 4.S29/35- Do not empty into drains; dispose of this material and its container in a safe way 5 S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

MAAK ANTIVIRAL PROTECTION

REV NO: 00
DATE: MAY 2020

TECHNICAL DATA SHEET

Quaternary Ammonium-Silane Antimicrobial Formulation

General Information

MAAK ANTIVIRAL PROTECTION is a ready-to-use formulation of an EPA registered organo-functional silane based antimicrobial agent that uses the well tested, polymeric binding properties and antimicrobial attributes of quaternary ammonium-silane (quat-silane) chemistry to create antimicrobial treated articles. This unique binding system provides a durable, broad spectrum, non-leaching coating that reacts on and with the coated surface. This treatment creates a surface that is inhospitable for microbes and is effective against mold, mildew and algae as a static agent. When incorporated into industrial and household products, and consumer textiles during the manufacturing process or in use, MAAK ANTIVIRAL PROTECTION inhibits the growth of microbes to offer protection from offensive odors and product deterioration, increased durability and product freshness.

It is supplied in dilute, ready-to-use, liquid form, making it easy to mix with compatible alternative finishing agents (like anti-wrinkle resins, fluorocarbons, wicking agents and softeners, water proof coatings, Paints, polishes, paper coatings etc.,).

Special features

- Silane binding technology provides excellent durability
- Broad spectrum activity: controls odor-causing microorganisms
- Thermal stability: high tolerance in manufacturing
- Easy to apply on natural and absorbing surfaces
- Maintains aesthetics and freshness to the treated surface.

MAAK ANTIVIRAL PROTECTION

- Can be applied by pad, spray, or exhaustion process
- Dermatologically tested
- Active substance is free from AOX
- Easily bio-degradable
- EPA approved base ingredient (No. 91742-3)
- Base ingredient complies with EU BPR and BLUESIGN certification
- Base ingredient accepted for OEKO-TEX Standard 100

Physical Properties

Composition	Silane-functional tetraalkylammonium compound in water
Appearance (Visual)	Off white to white
Ionic Nature	Cationic
Solubility in Water	Miscible
pH Value	7.0-9.0
Quat-Silane concentration, wt. %	3.5-4.5
Ecology/Toxicology	The usual hygiene and safety rules for handling chemicals should be observed in storage, handling & use. Follow SDS.
Shelf Life	

Application

MAAK ANTIVIRAL PROTECTION may be applied to both organic and inorganic surfaces.

TECHNICAL DATA SHEET
REV NO: 00
DATE: MAY 2020

Directions for Use: Use standard coating methods such as padding, saturation, spray, foam, or exhaust applied as a dilute aqueous solution to give **1.0% to 5.0%** percent by weight of active ingredients.

As **MAAK ANTIVIRAL PROTECTION** is a dispersion, the active may settle on storage. It will be redispersible on proper shaking. **It is always advised to shake the container well before use.**

For pad and exhaust applications, aqueous bath solutions can be prepared by simply adding the **MAAK ANTIVIRAL PROTECTION** to water with stirring. Aqueous solutions should remain with agitation for 1 hour prior to use, however, lower time frames may be acceptable depending on substrate. After applying treatment, the surface should be allowed to dry at temperatures to a maximum of 160°C (320°F) to effectively complete curing of the siloxane bonds and to remove excess water, solvents and/or traces of volatile solvents from hydrolysis.

Additional binder (1-2 wt%) can be added for achieving extended durability for cotton and polyester fabrics. Additional non-ionic wetting agent (max 0.5 wt%) can be used for towels and other articles where absorbency is important.

Application Procedures

Padding-Drying

Padding

Padding bath temperature: Approx. 20-40 °C

Bath pH: 6.0-8.0 (can be optionally adjusted with acetic acid, check pH after adding the product)

MAAK ANTIVIRAL PROTECTION

Exhaust – Semi-Hydro – Tumble Dry

Exhaust: 15 - 20 Mins

Exhaust at bath temperature: approx. 20 °C – 40 °C

Bath pH: 6.0-8.0 (can be optionally adjusted with acetic acid, check pH after adding the product)

Bath MLR: 1:6 – 1:8

Tumble drying temperature: 60-100 °C (drying time depends on quality of fabric/garment)

Dip spin – Tumble drying

Dip spin: 15 - 20 Mins

Dip spin at bath temperature: approx. 20 °C – 40 °C

Bath pH: 6.0-8.0 (can be optionally adjusted with acetic acid, check pH after adding the product)

MLR: 1:1

Tumble drying temperature: 60-100 °C (drying time depends on quality of fabric/garment)

Approved applications for MAAK ANTIVIRAL PROTECTION are the preservation of non-food contact coatings and films, and industrial and household woven and nonwoven fibers and textiles. From mattresses and linens, to sports apparel and footwear, to fabrics used in hygienic environments, **MAAK ANTIVIRAL PROTECTION** is an ideal solution.

For use in fibers: non-food contact uses in industrial and household woven and non-woven fibers such as bedding, apparel, footwear, wall and floor coverings, carpets, draperies, wiping cloths, brushes, filters, insulation, tents, awnings, and traps. Use **MAAK ANTIVIRAL PROTECTION** in the treatment bath at levels that provide 1.0 to 5.0 active ingredient on the fiber (depending on end-use claims and expectations).

TECHNICAL DATA SHEET

REV NO: 00
DATE: MAY 2020

Use MAAK ANTIVIRAL PROTECTION in a well-ventilated area, free of sparks and open flames. Standard city water may be used, provided it is free of high concentrations of metal ions.

Antimicrobial Activity

Substrates treated with MAAK ANTIVIRAL PROTECTION are noted for their proven, outstanding skin tolerance and are safe for human and the environment. The **MAAK ANTIVIRAL PROTECTION** active ingredient and the proprietary silane technology binding protocol incorporated within the **XTS-18** formulation provide a reliable and durable bacteriostatic effect against both Gram positive and Gram negative bacteria, yeasts and fungi**. MAAK ANTIVIRAL PROTECTION** both covalently and ionically binds to itself and fiber surfaces creating a surface modification in which odor causing organisms cannot adhere and colonize without changing other physical properties of the final fabric. MAAK ANTIVIRAL PROTECTION has been tested for efficacy against a variety of bacterial and fungal organisms. Please note that approval of this product by United States Environmental Protection Agency limits efficacy claims made for antimicrobial treated articles to non-pathogenic organisms.

Antimicrobial and anti-odor performance has been demonstrated using industry standard test techniques including ASTM E3160-18, ASTM E2149, JIS L1902, ISO 20743, ASTM E3162- 18, AATCC TM100 and IACM0710. Standard ASTM E3162-18 method can be followed as wash protocol. All tests performed and verified by the International Antimicrobial Council and test results are available upon request.

Storage, Handling and Disposal

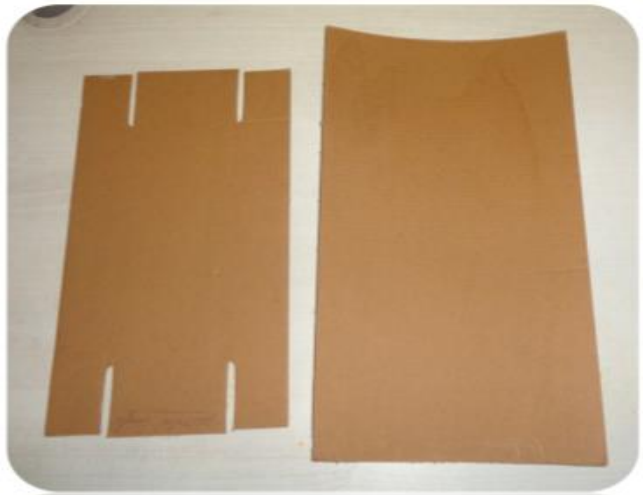
Please refer to the Safety Data Sheet for this product for precise instructions. The processing and use of industrial chemicals require adequate technical and professional knowledge. In general, avoid eye and skin contact, and wear correct personal protective equipment. Avoid prolonged inhalation of **MAAK ANTIVIRAL PROTECTION** vapors.

Store and use the **MAAK ANTIVIRAL PROTECTION** in a well-ventilated area, away from sparks or open flames.

It should be stored at ambient conditions in the original container, tightly sealed. Protect from frost and heat. **Do not freeze**.

ANTIVIRAL REPORT FOR PAPER & BOARD SURFACES

TEST REPORT NUMBER : MUM 55063 / 2020



Testtex India Laboratories Pvt. Ltd.

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www.testtex.com

Tested samples will be retained for 60 days after issue of test report unless otherwise agreed with the customer.
Testing Textiles, Leather Products, Footwear, Water, Food, Packaging Material, Construction Materials & Consumer Goods
TTI/REC30/TR/TEXTILES

Testtex
ESTD.1988

TEST REPORT NUMBER : MUM 55063 / 2020	**MUMBAI**
NAME OF CLIENT : M/S MOHAMAD AMIN ABDUL RAHMAN SAIT.	
Address : #3275, 12TH Main, HAL 2nd Stage, Indiranagar, Bangalore - 560038	Date Of Sample Submission : 30.09.2020 Date Of Test Start : 12.10.2020 Date Of Test Completion : 14.10.2020 Date Of Reporting : 15.10.2020
Contact Person : Mr. Ameen Rahaman **Cell No :** +91 9845050098 **E - Mail:** ar@ficuspax.com	
Sample Description : Corrugated Paper Board Coated with XTS 80 GPL	

Name of Test : Test Method for Antimicrobial Activity of Textile Products – Modified AATCC 100:2019

Purpose of Test : Antiviral Finishes on Fabrics and Garments

Test Organisms : Escherichia coli bacteriophage MS2 ATCC 15597

Test Conditions :

1. **Contact Time** : 10 & 30 Minutes
2. **Incubation Temp** : 37°C +/- 2°C
3. **Neutralizer Used** : D/E Neutralizing broth
4. **Media and Reagent** : TSA Agar
5. **Incubation Period** : 48 Hours

Parameter	Recovered MS2 Phage after contact time = 0 hr (Pfu/sample)	Recovered MS2 Phage after contact time = 10 min (Pfu/sample)	Formula [100(B-A)/B=R]	Percent reduction	Recovered MS2 Phage after contact time = 30 min (Pfu/sample)	Formula [100(B-A)/B=R]	Percent reduction
Treated	9.0×10^4	8.5×10^3	----	90.5 % reduction	6.5×10^2	----	99.2 % reduction
Un-Treated	----	----	----	----	----	----	----

Note :
0% - Not Acceptable
<50% - Insignificant
>50% - Significant
>95% - Acceptable & Significant

Where,
R = Percentage of Bacteria / Reduction
A = the no. of bacteria recovered from the inoculated treated test specimen swatches in the jar over the desired contact time.
B = no. of bacteria recovered from inoculated treated test specimen swatches in the jar immediately after 0 contact time.

Remark : Sample shows antiviral activity.

AUTHORISED SIGNATORY

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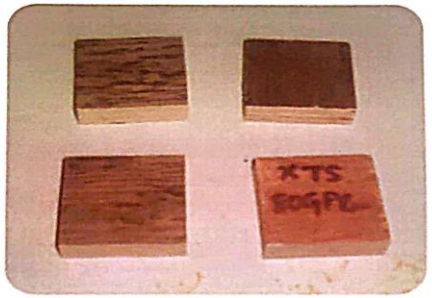
ANTIVIRAL REPORT FOR PLYWOOD XTS FINISH - 80 GPL

Testtex
ESTD.1988

TEST REPORT NUMBER : MUM57316 / 2020



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TEST REPORT — MUMBAI

REPORT NUMBER : MUM57316 / 2020	
ULR No. : TC583520200036171P	
NAME OF CLIENT : M/S MOHAMAD AMIN ABDUL RAHMAN SAIT.	
Address : #3275, 12TH Main, HAL 2nd Stage, Indiranagar, Bangalore - 560038	Date Of Sample Submission : 27-10-2020 Date Of Test Start : 02-11-2020 Date Of Test Completion : 04-11-2020 Date Of Reporting : 04-11-2020
Contact Person : Mr. Ameen Rahaman Cell No : +91 9845050098 E - Mail: ar@ficuspax.com	
Sample Description : Ply Wood, XTS 80 GPL	

Name of Test : Test Method for Antimicrobial Activity of Hard Non-Porous Surfaces – JIS Z 2801: 2012

Purpose of Test : Antiviral Finishes on Hard Non-Porous Surfaces

Test Organisms : Escherichia coli bacteriophage MS2 ATCC 15597

Test Conditions :

1. **Contact Time : 10 & 30 Minutes at 35°C +/- 1°C**
2. **Incubation Temp : 35°C +/- 1°C**
3. **Neutralizer Used : SCDLP**
4. **Media and Reagent : TSA Agar**
5. **Incubation Period : 48 Hours**

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 10 min (Cfu / sample)	Log of 10 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	133000	5.123851641	86000	4.934498	0.864842098	86.34 %
Un-Treated		141000	5.149219113	630000	5.799341		

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 30 min (Cfu / sample)	Log of 30 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	133000	5.123851641	5300	3.7242759	4.22996664	99.99 %
Un-Treated		141000	5.149219113	90000000	7.9542425		

Note : A Value of 2.0 or above is considered "antimicrobial" by JIS

Where,
R = Value of antimicrobial activity
A = Average of the number of viable cells of bacteria immediately after inoculation on the untreated test piece.
B = Average of the number of viable cells of bacteria on the untreated piece after 24 hrs.
C = Average of the number of viable cells of bacteria on the treated piece after 24 hrs.

Remark : Sample shows antiviral activity.

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ANTIVIRAL REPORT FOR PINEWOOD XTS FINISH - 80 GPL

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TEST REPORT NUMBER : MUM57315 / 2020

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TEST REPORT

REPORT NUMBER : MUM57315 / 2020 — MUMBAI
ULR No. : TC583520200036170P
NAME OF CLIENT : M/S MOHAMAD AMIN ABDUL RAHMAN SAIT.
Address : #3275, 12TH Main, HAL 2nd Stage, Indiranagar, Bangalore - 560038
Date Of Sample Submission : 27-10-2020
Date Of Test Start : 02-11-2020
Date Of Test Completion : 04-11-2020
Date Of Reporting : 04-11-2020
Contact Person : Mr. Ameen Rahaman
Cell No : +91 9845050098
E - Mail: ar@ficuspax.com
Sample Description : Pine Wood, XTS 80 GPL

Name of Test : Test Method for Antimicrobial Activity of Hard Non-Porous Surfaces – JIS Z 2801: 2012

Purpose of Test : Antiviral Finishes on Hard Non-Porous Surfaces

Test Organisms : Escherichia coli bacteriophage MS2 ATCC 15597

Test Conditions :
1. Contact Time : 10 & 30 Minutes at 35°C +/- 1°C
2. Incubation Temp : 35°C +/- 1°C
3. Neutralizer Used : SCDLP
4. Media and Reagent : TSA Agar
5. Incubation Period : 48 Hours

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 10 min (Cfu / sample)	Log of 10 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	13100	5.117271296	28000	4.447158	1.260412145	94.50 %
Un-Treated		13500	5.130333768	510000	5.70757		

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 30 min (Cfu / sample)	Log of 30 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	13100	5.117271296	7800	3.8920946	4.02171925	99.99 %
Un-Treated		13500	5.130333768	82000000	7.9138139		

Note : A Value of 2.0 or above is considered "antimicrobial" by JIS

Where,
R = Value of antimicrobial activity
A = Average of the number of viable cells of bacteria immediately after inoculation on the untreated test piece.
B = Average of the number of viable cells of bacteria on the untreated piece after 24 hrs.
C = Average of the number of viable cells of bacteria on the treated piece after 24 hrs.

Remark : Sample shows antiviral activity.

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ANTIVIRAL REPORT FOR WOOD WITH VENEER FINISHED WITH POLISH SURFACES

TEST REPORT NUMBER : MUM 61127 / 2020

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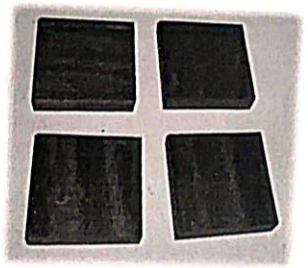
TEST REPORT NUMBER : MUM 61127 / 2020



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TEST REPORT

REPORT NUMBER : MUM61127 / 2020	MUMBAI
ULR No. : TC583520200039996P	
NAME OF CLIENT : M/S MOHAMAD AMIN ABDUL RAHMAN SAIT.	
Address : #3275, 12TH Main, HAL 2nd Stage, Indiranagar, Bangalore - 560038	Date Of Sample Submission : 14-12-2020
	Date Of Test Start : 21-12-2020
	Date Of Test Completion : 23-12-2020
	Date Of Reporting : 24-12-2020
Contact Person : Mr. Ameen Rahaman Cell No : +91 9845050098 E - Mail: ar@ficuspax.com	
Sample Description : Wood With Veneer Finished With Polish	

Name of Test : Test Method for Antimicrobial Activity of Hard Non-Porous Surfaces – JIS Z 2801: 2012

Purpose of Test : Antiviral Finishes on Hard Non-Porous Surfaces

Test Organisms : Escherichia coli bacteriophage MS2 ATCC 15597

Test Conditions :

1. **Contact Time : 10 & 30 Minutes at 35°C +/- 1°C**
2. **Incubation Temp : 35°C +/- 1°C**
3. **Neutralizer Used : SCDLP**
4. **Media and Reagent : TSA Agar**
5. **Incubation Period : 48 Hours**

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 10 min (Cfu / sample)	Log of 10 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	142000	5.152288344	148000	5.170262	0.156074146	30.18 %
Un-Treated		158000	5.198657087	212000	5.326336		

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 30 min (Cfu / sample)	Log of 30 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	142000	5.152288344	5200	3.7160033	2.096910013	99.2 %
Un-Treated		158000	5.198657087	650000	5.8129134		

Note : A Value of 2.0 or above is considered "antimicrobial" by JIS

Where,
R = Value of antimicrobial activity
A = Average of the number of viable cells of bacteria immediately after inoculation on the untreated test piece.
B = Average of the number of viable cells of bacteria on the untreated piece after 24 hrs.
C = Average of the number of viable cells of bacteria on the treated piece after 24 hrs.

Remark : Sample shows antiviral activity.

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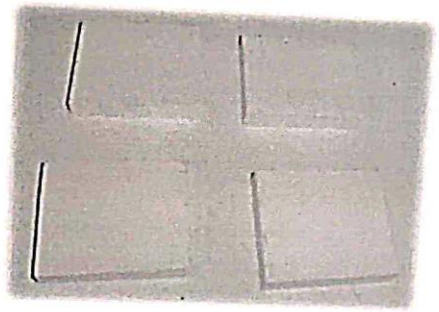
ANTIVIRAL REPORT FOR WOOD FINISHED WITH PAINT

TEST REPORT NUMBER : MUM 61126 / 2020

TEST REPORT NUMBER : MUM 61126 / 2020



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TEST REPORT

REPORT NUMBER : MUM61126 / 2020	MUMBAI
ULR No. : TC583520200039995P	
NAME OF CLIENT : M/S MOHAMAD AMIN ABDUL RAHMAN SAIT.	
Address : #3275, 12TH Main, HAL 2nd Stage, Indiranagar, Bangalore - 560038	Date Of Sample Submission : 14-12-2020
	Date Of Test Start : 21-12-2020
	Date Of Test Completion : 23-12-2020
	Date Of Reporting : 24-12-2020
Contact Person : Mr. Ameen Rahaman Cell No : +91 9845050098 E - Mail: ar@ficuspax.com	
Sample Description : WOOD Finished With Paint	

Name of Test : Test Method for Antimicrobial Activity of Hard Non-Porous Surfaces – JIS Z 2801: 2012

Purpose of Test : Antiviral Finishes on Hard Non-Porous Surfaces

Test Organisms : Escherichia coli bacteriophage MS2 ATCC 15597

Test Conditions :
1. Contact Time : 10 & 30 Minutes at 35°C +/- 1°C
2. Incubation Temp : 35°C +/- 1°C
3. Neutralizer Used : SCDLP
4. Media and Reagent : TSA Agar
5. Incubation Period : 48 Hours

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 10 min (Cfu / sample)	Log of 10 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	135000	5.130333768	225000	5.352183	0.166331422	31.81 %
Un-Treated		146000	5.164352856	330000	5.518514		

Sample Identification	Parameter	Count after 0hr (Cfu / Sample)	Log of 0 hr	Count after 30 min (Cfu / sample)	Log of 30 min	R = [Log B – Log C)]	% Reduction
Treated	MS2 Bacteriophage	135000	5.130333768	8100	3.908485	2.020933907	99.04 %
Un-Treated		146000	5.164352856	850000	5.9294189		

Note : A Value of 2.0 or above is considered "antimicrobial" by JIS

Where,
R = Value of antimicrobial activity
A = Average of the number of viable cells of bacteria immediately after inoculation on the untreated test piece.
B = Average of the number of viable cells of bacteria on the untreated piece after 24 hrs.
C = Average of the number of viable cells of bacteria on the treated piece after 24 hrs.

Remark : Sample shows antiviral activity.

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