

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Tuff Kote
Product code : TK-150-5, TK-150-55

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Coating solution
Recommended use : Coating solution

1.3. Supplier

Nanoplas Inc.
2950 Prairie Street South West
Suite 900
Grandville, MI, 49418
T (616)-452-3707
info@nanomoldcoating.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call INFOTRAC 24hr/day 7days/week
(collect calls accepted)
Within USA, Mexico and Canada: 800-535-5053 ID# 102222
Outside USA, Mexico and Canada: 1-352-323-3500 ID# 102222

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapor
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336	May cause drowsiness or dizziness
Aspiration hazard Category 1	H304	May be fatal if swallowed and enters airways
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) : 

Signal word (GHS US) : Danger

Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.

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P241 - Use explosion-proof electrical/ventilating/lighting equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing vapors, spray.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P331 - Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P363 - Wash contaminated clothing before reuse.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P312 - Call a poison center or doctor if you feel unwell.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : None known.

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Heptane, branched, cyclic and linear	CAS-No.: 426260-76-6	> 80
Propan-2-ol, isopropyl alcohol, isopropanol	CAS-No.: 67-63-0	5 – 10
Naphtha (petroleum), hydrotreated light	CAS-No.: 64742-49-0	1 - 5

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.
First-aid measures after inhalation : Move the affected person to fresh air. Get medical attention if symptoms occur.
First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Get medical advice if skin irritation persists.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a physician immediately.

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4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: Aspiration hazard. Causes skin irritation. May cause drowsiness or dizziness.
Inhalation	: Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. May cause minor irritation to the respiratory tract and to other mucous membranes.
Skin	: Causes skin irritation.
Eyes	: May cause minor eye irritation.
Ingestion	: Aspiration hazard. May be fatal if swallowed and enters airways. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: None known.

4.3. Immediate medical attention and special treatment, if necessary

Aspiration hazard. If accidentally swallowed obtain immediate medical attention.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , or water spray or regular foam.
Unsuitable extinguishing media	: Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard	: Highly flammable liquid and vapor. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. On burning: release of carbon monoxide - carbon dioxide.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Cool down the containers exposed to heat with a water spray.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Ventilate area. Eliminate all ignition sources. Avoid contact with skin, eyes and clothing. Wear suitable protective clothing.
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6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate area. Avoid contact with skin and eyes. Avoid breathing mist, spray, vapors. No flames, no sparks. Eliminate all sources of ignition. Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Do not allow product to spread into the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Absorb and/or contain spill with inert material, then place in suitable container. Notify authorities if product enters sewers or public waters.
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Other information : Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For waste disposal after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure adequate ventilation. Use only outdoors or in a well-ventilated area. Avoid breathing mist, spray, vapors. Avoid contact with eyes, skin and clothing. Wear personal protective equipment. Use explosion-proof equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only non-sparking tools.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a cool, well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store locked up.

Incompatible materials : Strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)	
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Propanol
ACGIH OEL TWA	200 ppm
ACGIH OEL STEL	400 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr; CNS impair. Notations: A4 (Not classifiable as a Human Carcinogen); BEI
Regulatory reference	ACGIH 2024
USA - ACGIH - Biological Exposure Indices	
Local name	2-Propanol
BEI (BLV)	40 mg/l Parameter: Acetone - Medium: urine - Sampling time: End of shift at end of workweek - Notations: B, Ns
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Isopropyl alcohol
OSHA PEL (TWA)	980 mg/m³
	400 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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8.2. Appropriate engineering controls

Appropriate engineering controls	: Provide adequate general and local exhaust ventilation. Use spark-/explosionproof appliances and lighting system. No particular/specific measures required.
Environmental exposure controls	: Do not allow product to spread into the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear impervious gloves.
Eye protection:
Use suitable eye protection
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
Thermal hazard protection:
Not applicable.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Amber liquid.
Color	: Amber
Odor	: Characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 35 °C
Flash point	: -4 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.719
Solubility	: Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: < 20.5 mm²/s
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosion limit: 2 vol % Upper explosion limit: 13 vol %
Explosive properties	: None.
Oxidizing properties	: None.
Particle Characteristics	: Not applicable

9.2. Other information

VOC content	: 87.75 %
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SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapor. The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Keep away from oxidizers, strong acids and strong bases. Keep away from ignition sources (including static discharges).

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Naphtha (petroleum), hydrotreated light (64742-49-0)

LD50 oral	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg body weight Animal: rabbit, Animal sex: male, 95% CL: 9,63 - 20,77
LC50 Inhalation - Rat	> 5610 mg/m ³

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

LD50 oral rat	5840 mg/kg
LD50 dermal rabbit	16.4 ml/kg
LC50 Inhalation - Rat [ppm]	1666.66 ppm/1h

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified. This product does not contain any component that is considered a carcinogen by IARC, ACGIH, OSHA or NTP.

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

IARC group	3 - Not classifiable
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Reproductive toxicity : Not classified
STOT-single exposure : May cause drowsiness or dizziness.

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Naphtha (petroleum), hydrotreated light (64742-49-0)

STOT-single exposure : May cause drowsiness or dizziness.

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

STOT-single exposure : May cause drowsiness or dizziness.

Heptane, branched, cyclic and linear (426260-76-6)

STOT-single exposure : May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

Naphtha (petroleum), hydrotreated light (64742-49-0)

LOAEC (inhalation, rat, vapor, 90 days) : 4.71 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)

NOAEC (inhalation, rat, vapor, 90 days) : 2.355 mg/l air Animal: rat, Guideline: EU Method B.29 (Sub-Chronic Inhalation Toxicity:90-Day Study)

Aspiration hazard : May be fatal if swallowed and enters airways.

Viscosity, kinematic : < 20.5 mm²/s

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

Viscosity, kinematic : 2.58 mm²/s

Symptoms/effects : Aspiration hazard. Causes skin irritation. May cause drowsiness or dizziness.

Inhalation : Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. May cause minor irritation to the respiratory tract and to other mucous membranes.

Skin : Causes skin irritation.

Eyes : May cause minor eye irritation.

Ingestion : Aspiration hazard. May be fatal if swallowed and enters airways. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic symptoms : None known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.

Naphtha (petroleum), hydrotreated light (64742-49-0)

LC50 - Fish [1] : 10 mg/l 96 hr

EC50 - Crustacea [1] : 4.5 mg/l 48 hr

EC50 - Other aquatic organisms [1] : 3.1 mg/l 72 hr

LC50 - Fish [2] : 8.2 mg/l 96 hr

EC50 72h - Algae [1] : 3.1 mg/l Pseudokirchnerella subcapitata

EC50 72h - Algae [2] : 18.9 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

LC50 - Fish [1] : 10000 mg/l Pimephales promelas (Fathead minnow)

EC50 - Crustacea [1] : > 10000 mg/l

LC50 - Fish [2] : 9640 mg/l Pimephales promelas (Fathead minnow)

NOEC chronic crustacea : 3.37 mg/l

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12.2. Persistence and degradability

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Persistence and degradability	No additional information available.
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Naphtha (petroleum), hydrotreated light (64742-49-0)

Persistence and degradability	Inherently biodegradable.
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Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

Persistence and degradability	Readily biodegradable.
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Heptane, branched, cyclic and linear (426260-76-6)

Persistence and degradability	Inherently biodegradable.
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12.3. Bioaccumulative potential

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

BCF - Fish [1]	3
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Partition coefficient n-octanol/water (Log Kow)	0.05
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12.4. Mobility in soil

Propan-2-ol, isopropyl alcohol, isopropanol (67-63-0)

Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.5
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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Flammable vapors may accumulate in the container.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
UN1206	1206	1206
14.2. Proper Shipping Name		
Heptanes	HEPTANES	Heptanes
14.3. Transport hazard class(es)		
3	3	3

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DOT	IMDG	IATA
		
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: Yes	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

DOT

UN-No.(DOT)	: UN1206
DOT Special Provisions (49 CFR 172.102)	: IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

IMDG

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage)	: S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG)	: B
Properties and observations (IMDG)	: Colourless, volatile liquids. Explosive limits: 1.1% to 6.7%. n-HEPTANE: flashpoint -4°C c.c. Immiscible with water. Irritating to skin, eyes and mucous membranes.

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IATA

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
ERG code (IATA)	: 3H

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Tuff Kote

SARA Section 311/312 Hazard Classes	Refer to Section 2 for OSHA Hazard Classification.
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Propan-2-ol, isopropyl alcohol, isopropanol(67-63-0)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

According to 29CFR 1910.1200 OSHA Hazard Communication Standard

Revision date : 7/8/2024

Full text of hazard classes and H-statements

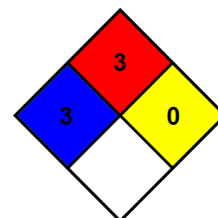
H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness

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- NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



- Hazard Rating
- Health : 3 Serious Hazard
- Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB IC)
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Indication of changes:

Composition/Information on ingredients. All chapters have been modified since the previous version. revised edition.

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.