

SAFETY DATA SHEET

RAMUC[®]

KOP-COAT

Revision Date 07-Oct-2015
Version 1

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name Ramuc Type EP Hi-Build Epoxy White - Part A
Product code 912231102

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Paint
Restrictions on use Read label instructions and SDS

1.3 Details of the supplier of the safety data sheet

Supplier Kop-Coat, Inc.
RAMUC
36 Pine Street
Rockaway, NJ 07866
1-800-221-4466

1.4 Emergency telephone number

Emergency telephone number Chemtrec: +1 703-527-3887 ex-USA
Chemtrec: 1-800-424-9300 USA

2. Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910.1200

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Flammable liquids	Category 3

2.2 Label elements

Signal Word

Warning

Hazard Statements

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
Flammable liquid and vapor

**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 Wash face, hands and any exposed skin thoroughly after handling
 Contaminated work clothing must not be allowed out of the workplace
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep container tightly closed
 Ground/Bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 If skin irritation or rash occurs: Get medical advice/attention
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
 Wash contaminated clothing before reuse
 In case of fire: Use CO₂, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

2.3. Other Hazards Hazards not otherwise classified (HNOC)

Not Applicable

2.4 Other information

Not Applicable

Unknown Acute Toxicity

< 1% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Not applicable

Mixture

Chemical Name	CAS-No	Weight %
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	25068-38-6	40 - 50
Titanium dioxide	13463-67-7	20 - 30
Talc	14807-96-6	10 - 20
Xylene	1330-20-7	5 - 10

Ethylbenzene	100-41-4	1 - 5
Calcium carbonate (Limestone)	1317-65-3	1 - 5
ALUMINUM OXIDE	1344-28-1	1 - 5
Methyl isobutyl ketone	108-10-1	< 1
Toluene	108-88-3	< 1

The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First aid measures

4.1 Description of first-aid measures

General advice	For further assistance, contact your local Poison Control Center.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Call a poison control center or doctor for treatment advice.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a poison control center or doctor for treatment advice.
Inhalation	Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a poison control center or doctor for treatment advice.
Ingestion	Rinse mouth. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	See Section 2.2, Label Elements and/or Section 11, Toxicological effects.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	There is no specific antidote for effects from overexposure to this material. Treat symptomatically.
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5. Fire-Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Foam. Carbon dioxide (CO₂). Dry chemical. Water spray or fog. Water may be used to cool and prevent the rupture of containers that are exposed to the heat from a fire.

Unsuitable Extinguishing Media Water may be unsuitable for extinguishing fires.

5.2 Special hazards arising from the substance or mixture

Special Hazard

Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks) Vapors may travel to areas away from work site before igniting/flashing back to vapor source Thermal decomposition can lead to release of irritating gases and vapors

Hazardous Combustion Products Possible formation of carbon oxides, nitrogen oxides, and hazardous organic compounds.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive.

Sensitivity to Static Discharge Yes.

5.3 Advice for firefighters

Evacuate personnel to safe areas. Move non-burning material, as feasible, to a safe location as soon as possible. As in any fire,

wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers with flooding quantities of water until well after fire is out. Thoroughly decontaminate all protective equipment after use. DO NOT extinguish a fire resulting from the flow of flammable liquid until the flow of the liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished.

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Refer to protective measures listed in sections 7 and 8. Avoid exceeding of the given occupational exposure limits (see section 8). Personal protection needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the training and the expertise of employees in the area responding to the spill.

6.2 Environmental precautions

Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological information.

6.3 Methods and materials for containment and cleaning up

Methods for Containment

Dike far ahead of liquid spill for later disposal. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Ground and bond containers when transferring material. Take precautionary measures against static discharges. Use non-sparking tools and equipment.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation. Ground and bond containers when transferring material. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Use according to package label instructions. Empty containers may retain product residue or vapor. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. No smoking.

Hygiene measures

Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep in properly labeled containers. Keep away from food, drink and animal feedingstuffs. Store in accordance with local regulations.

Materials to Avoid

No materials to be especially mentioned.

8. Exposure controls/personal protection

8.1 Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	British Columbia	Alberta	Quebec	Ontario TWA EV

Titanium dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 15 mg/m ³ total dust	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³
Talc 14807-96-6	TWA: 2 mg/m ³ particulate matter containing no asbestos and <1% crystalline silica, respirable fraction	TWA: 20 mppcf if 1% Quartz or more, use Quartz limit	TWA: 2 mg/m ³	TWA: 2 mg/m ³	TWA: 3 mg/m ³	TWA: 2 mg/m ³
Xylene 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m ³	TWA: 100 ppm STEL: 150 ppm	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 150 ppm STEL: 651 mg/m ³	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 150 ppm STEL: 651 mg/m ³	TWA: 100 ppm STEL: 150 ppm
Ethylbenzene 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m ³	TWA: 20 ppm	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 125 ppm STEL: 543 mg/m ³	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 125 ppm STEL: 543 mg/m ³	TWA: 20 ppm
Calcium carbonate (Limestone) 1317-65-3	-	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction	TWA: 10 mg/m ³ TWA: 3 mg/m ³ STEL: 20 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	
ALUMINUM OXIDE 1344-28-1	TWA: 1 mg/m ³ respirable fraction	TWA: 15 mg/m ³ total dust TWA: 5 mg/m ³ respirable fraction	TWA: 1.0 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 1 mg/m ³
Methyl isobutyl ketone 108-10-1	STEL: 75 ppm TWA: 20 ppm	TWA: 100 ppm TWA: 410 mg/m ³	TWA: 20 ppm STEL: 75 ppm	TWA: 50 ppm TWA: 205 mg/m ³ STEL: 75 ppm STEL: 307 mg/m ³	TWA: 50 ppm TWA: 205 mg/m ³ STEL: 75 ppm STEL: 307 mg/m ³	TWA: 20 ppm STEL: 75 ppm
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm Ceiling: 300 ppm	TWA: 20 ppm Adverse reproductive effect	TWA: 50 ppm TWA: 188 mg/m ³ Skin	TWA: 50 ppm TWA: 188 mg/m ³ Skin	TWA: 20 ppm

8.2 Appropriate engineering controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use adequate ventilation to maintain airborne concentrations at levels below permissible or recommended occupational exposure limits.

8.3 Individual protection measures, such as personal protective equipment

Eye/Face Protection

Safety glasses with side-shields. If splashes are likely to occur, wear: Tightly fitting safety goggles. Face-shield.

Skin and body protection

Solvent-resistant gloves. Nitrile rubber. Neoprene gloves. Impervious butyl rubber gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Wear suitable protective clothing. Remove and wash contaminated clothing before re-use.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures

See section 7 for more information

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	White
Odor	Solvent
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range	114-261	
Flash Point	27 °C / 81 °F	
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limits in Air		
upper flammability limit		No information available
lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available
Specific Gravity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, kinematic	> 22 mm ² /s	
Viscosity, dynamic		No information available
Explosive properties		No information available
Oxidizing Properties		No information available

9.2 Other information

Volatile organic compounds (VOC) content	208 g/L
Density	12.90 lb/gal

10. Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to Avoid

Keep away from heat, sparks and flames.

10.5 Incompatible Materials

No materials to be especially mentioned.

10.6 Hazardous Decomposition Products

None under normal use conditions. Thermal decomposition can lead to release of irritating gases and vapors.

11. Toxicological information

11.1 Acute toxicity

Numerical measures of toxicity: Product Information

The following values are calculated based on chapter 3.1 of the GHS document

Unknown Acute Toxicity < 1% of the mixture consists of ingredient(s) of unknown toxicity

Oral LD50	13,611.00 mg/kg
Dermal LD50	41,754.00 mg/kg
LC50 (Vapor)	96.00 mg/l

Numerical measures of toxicity: Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700) 25068-38-6	11400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
Titanium dioxide 13463-67-7	10000 mg/kg (Rat)	-	-
Xylene 1330-20-7	3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h
Ethylbenzene 100-41-4	3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
ALUMINUM OXIDE 1344-28-1	5000 mg/kg (Rat)	-	-
Methyl isobutyl ketone 108-10-1	2080 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	> 2000 ppm (Rat) 4 h
Toluene 108-88-3	2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 28.1 mg/L (Rat) 4 h

11.2 Information on toxicological effects

Skin corrosion/irritation

Product Information

- No information available

Component Information

- No information available

Eye damage/irritation

Product Information

- No information available

Component Information

- No information available

Respiratory or skin sensitization

Product Information

- No information available

Component Information

- No information available

Germ cell mutagenicity

Product Information

- No information available

Component Information

- No information available

CarcinogenicityProduct Information

- The table below indicates whether each agency has listed any ingredient as a carcinogen

Component Information

- Contains a known or suspected carcinogen

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7	-	Group 2B	-	
Ethylbenzene 100-41-4	-	Group 2B	-	
Methyl isobutyl ketone 108-10-1	-	Group 2B	-	

Reproductive toxicityProduct Information

- No information available

Component Information

- No information available

STOT - single exposure

No information available

STOT - repeated exposure

- No information available

Other adverse effectsProduct Information

- No information available

Component Information

- No information available

Aspiration hazardProduct Information

- No information available

Component Information

- No information available

12. Ecological information

12.1 Toxicity**Ecotoxicity**

No information available

1.3487 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Ecotoxicity effects

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Talc 14807-96-6	-	LC50: 96 h Brachydanio rerio 100 g/L semi-static	-
Xylene 1330-20-7	-	LC50: 96 h Pimephales promelas 23.53 - 29.97 mg/L static LC50: 96 h Cyprinus carpio 780 mg/L semi-static LC50: 96 h Cyprinus carpio 780 mg/L LC50: 96 h Poecilia reticulata 30.26 - 40.75 mg/L static LC50: 96 h Pimephales promelas 13.4 mg/L flow-through LC50: 96 h Oncorhynchus mykiss 2.661 - 4.093 mg/L static LC50: 96 h Oncorhynchus mykiss 13.5 - 17.3	EC50: 48 h water flea 3.82 mg/L LC50: 48 h Gammarus lacustris 0.6 mg/L

		mg/L LC50: 96 h <i>Lepomis macrochirus</i> 13.1 - 16.5 mg/L flow-through LC50: 96 h <i>Lepomis macrochirus</i> 19 mg/L LC50: 96 h <i>Lepomis macrochirus</i> 7.711 - 9.591 mg/L static	
Ethylbenzene 100-41-4	EC50: 72 h <i>Pseudokirchneriella subcapitata</i> 4.6 mg/L EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 438 mg/L EC50: 72 h <i>Pseudokirchneriella subcapitata</i> 2.6 - 11.3 mg/L static EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 1.7 - 7.6 mg/L static	LC50: 96 h <i>Oncorhynchus mykiss</i> 11.0 - 18.0 mg/L static LC50: 96 h <i>Oncorhynchus mykiss</i> 4.2 mg/L semi-static LC50: 96 h <i>Pimephales promelas</i> 7.55 - 11 mg/L flow-through LC50: 96 h <i>Lepomis macrochirus</i> 32 mg/L static LC50: 96 h <i>Pimephales promelas</i> 9.1 - 15.6 mg/L static LC50: 96 h <i>Poecilia reticulata</i> 9.6 mg/L static	EC50: 48 h <i>Daphnia magna</i> 1.8 - 2.4 mg/L
Methyl isobutyl ketone 108-10-1	EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 400 mg/L	LC50: 96 h <i>Pimephales promelas</i> 496 - 514 mg/L flow-through	EC50: 48 h <i>Daphnia magna</i> 170 mg/L
Toluene 108-88-3	EC50: 96 h <i>Pseudokirchneriella subcapitata</i> 433 mg/L EC50: 72 h <i>Pseudokirchneriella subcapitata</i> 12.5 mg/L static	LC50: 96 h <i>Pimephales promelas</i> 15.22 - 19.05 mg/L flow-through LC50: 96 h <i>Pimephales promelas</i> 12.6 mg/L static LC50: 96 h <i>Oncorhynchus mykiss</i> 5.89 - 7.81 mg/L flow-through LC50: 96 h <i>Oncorhynchus mykiss</i> 14.1 - 17.16 mg/L static LC50: 96 h <i>Oncorhynchus mykiss</i> 5.8 mg/L semi-static LC50: 96 h <i>Lepomis macrochirus</i> 11.0 - 15.0 mg/L static LC50: 96 h <i>Oryzias latipes</i> 54 mg/L static LC50: 96 h <i>Poecilia reticulata</i> 28.2 mg/L semi-static LC50: 96 h <i>Poecilia reticulata</i> 50.87 - 70.34 mg/L static	EC50: 48 h <i>Daphnia magna</i> 5.46 - 9.83 mg/L Static EC50: 48 h <i>Daphnia magna</i> 11.5 mg/L

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Discharge into the environment must be avoided

Chemical Name	log Pow
Xylene 1330-20-7	3.15
Ethylbenzene 100-41-4	3.118
Methyl isobutyl ketone 108-10-1	1.19
Toluene 108-88-3	2.65

12.4 Mobility in soil

No information available.

12.5 Other adverse effects

No information available

13. Disposal Considerations

13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. Transport Information

Note	This product may be reclassified as Consumer Commodity, ORM-D, when shipped by ground; packaging quantity limitations apply. Limited quantity
DOT	Quarts and gallons ship as limited quantity.
MEX	no data available
IMDG	
Proper shipping name	UN1263, Paint, 3, PG III
IATA	
Proper shipping name	UN1263, Paint, 3, PG III

15. Regulatory information

15.1 International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL - Canadian Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

15.2 U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values %
Xylene 1330-20-7	1.0
Ethylbenzene 100-41-4	0.1
ALUMINUM OXIDE 1344-28-1	1.0

15.3 Pesticide Information

Not applicable

15.4 U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Titanium dioxide - 13463-67-7	Carcinogen
Ethylbenzene - 100-41-4	Carcinogen
Methyl isobutyl ketone - 108-10-1	Carcinogen Developmental
Toluene - 108-88-3	Developmental Female Reproductive

16. Other information

NFPA	Health Hazard 2	Flammability 3	Instability 1	Physical and chemical hazards -
HMIS	Health Hazard 2*	Flammability 3	Physical Hazard 1	Personal protection X

Legend:

ACGIH (American Conference of Governmental Industrial Hygienists)

Ceiling (C)

DOT (Department of Transportation)

EPA (Environmental Protection Agency)

IARC (International Agency for Research on Cancer)

International Air Transport Association (IATA)

International Maritime Dangerous Goods (IMDG)

NIOSH (National Institute for Occupational Safety and Health)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

PEL (Permissible Exposure Limit)

Reportable Quantity (RQ)

Skin designation (S*)

STEL (Short Term Exposure Limit)

TLV® (Threshold Limit Value)

TWA (time-weighted average)

Revision Date 07-Oct-2015

Revision Note

No information available

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet