

SAFETY DATA SHEET

Published Date May-15-2019 Revision Date May-15-2019 Revision Number 2.5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier	
Product code	S230
Product name	Thinner
Product category	System 2 Series SV Vinyl Screen Ink

None

Other means of identification Synonyms

Recommended use of the chemical and restrictions on useRecommended usePrinting operations

Details of the supplier of the safety data sheet

UNITED STATES Nazdar Company 8501 Hedge Lane Terrace Shawnee, KS 66227 Tel: +001-913-422-1888 Tel: +001-800-677-4657 Fax: +001-913-422-2294 www.nazdar.com UNITED KINGDOM Nazdar Limited Barton Road Heaton Mersey Stockport, England SK4 3EG Tel: +44 161 442 2111

Emergency telephone number

USA: Chemtrec: +001-800-424-9300 Outside USA: Chemtrec: +001-703-527-3887 24 Hour Emergency Phone Number

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Dermal	Category 4 - (H312)
Acute toxicity - Inhalation (Dusts/Mists)	Category 4 - (H332)
Skin Corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 1 - (H318)
Carcinogenicity	Category 2 - (H351)
Aspiration toxicity	Category 1 - (H304)
Chronic aquatic toxicity	Category 3 - (H412)
Flammable liquids	Category 3 - (H226)



H304 - May be fatal if swallowed and enters airways

- H312 Harmful in contact with skin
- H315 Causes skin irritation

H318 - Causes serious eye damage

- H332 Harmful if inhaled
- H351 Suspected of causing cancer

H412 - Harmful to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P202 - Do not handle until all safety precautions have been read and understood

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P273 - Avoid release to the environment

P331 - Do NOT induce vomiting

P233 - Keep container tightly closed

P403 + P235 - Store in a well-ventilated place. Keep cool

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Hazards not otherwise classified (HNOC)

Harmful to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Component	CAS-No	Weight %	Trade Secret	Note
Ethylene glycol monopropyl ether	2807-30-9	30 - 60	*	
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60	*	
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	10 - 30	*	
Cyclohexanone	108-94-1	10 - 30	*	
Naphthalene (constituent)	91-20-3	1 - 5	*	1
1,2,4-Trimethylbenzene (constituent)	95-63-6	< 0.5	*	1

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

Note 1. Type of chemical: Constituent

4. FIRST AID MEASURES

Description of first aid measures

General Advice Eye Contact	Show this safety data sheet to the doctor in attendance. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.
Skin Contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

None under normal use conditions.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Foam. Carbon dioxide (CO2). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling

HandlingUse personal protective equipment as required. Do not eat, drink or smoke when using this
product. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

StorageKeep containers tightly closed in a dry, cool and well-ventilated place. Keep away from
open flames, hot surfaces and sources of ignition. Keep container closed when not in use.
Keep out of the reach of children.

Incompatible Products

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	ACGIH TLV
Ethylene glycol monobutyl ether acetate 112-07-2	TWA: 20 ppm
Cyclohexanone	TWA: 20 ppm

STEL: 50 ppm Skin
TWA: 10 ppm Skin

Component	OSHA PEL
Cyclohexanone	TWA: 50 ppm
108-94-1	TWA: 200 mg/m ³
Naphthalene (constituent)	TWA: 10 ppm
91-20-3	TWA: 50 mg/m ³

Component	OSHA PEL (vacated)
Cyclohexanone	TWA: 25 ppm
108-94-1	TWA: 100 mg/m ³
	Skin
Naphthalene (constituent)	TWA: 10 ppm
91-20-3	TWA: 50 mg/m ³
	STEL: 15 ppm
	STEL: 75 mg/m ³

Component	Ontario TWAEV	
Ethylene glycol monopropyl ether	TWA: 25 ppm	
2807-30-9	TWA: 110 mg/m ³	
	Skin	
Ethylene glycol monobutyl ether acetate	TWA: 20 ppm	
112-07-2		
Cyclohexanone	TWA: 20 ppm	
108-94-1	STEL: 50 ppm	
	Skin	
Naphthalene (constituent)	TWA: 10 ppm	
91-20-3	Skin	

Component	Mexico OEL (TWA)
Cyclohexanone	TWA/VLE-PPT: 50 ppm
108-94-1	TWA/VLE-PPT: 200 mg/m ³
	STEL/PPT-CT: 100 ppm
	STEL/PPT-CT: 400 mg/m ³
Naphthalene (constituent)	TWA/VLE-PPT: 10 ppm
91-20-3	TWA/VLE-PPT: 50 mg/m ³
	STEL/PPT-CT: 15 ppm
	STEL/PPT-CT: 75 mg/m ³

Appropriate engineering controls

Engineering Measures	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.
Individual protection measures, su	ch as personal protective equipment
Eye/Face Protection	Wear safety glasses with side shields (or goggles). If splashes are likely to occur:. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin Protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Hand Protection	Chemical resistant protective gloves. Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding >480 minutes of permeation time): eg. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), polyvinylchloride (0.7 mm) and other Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers. Taking into account the varying conditions, the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

	Due to different glove types, the manufacturer's directions for use should be observed. Replace gloves immediately when torn or any change in appearance is noticed such as dimension, color, flexibility.
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. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.
General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands bef eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact wi eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning equipment, work area and clothing is recommended.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Appearance	Water-white
Odor	Characteristic	Odor Threshold	No information available
Property_	Values	Remarks • Method	
рН		No data available	
Melting Point / Freezing Point		No data available	
Boiling Point / Boiling Range	> 149 °C / 300 °F		
Flash Point	46 °C / 115 °F	Pensky Martens Close	ed Cup (PMCC)
Evaporation rate		No data available	
Flammability Limit in Air			
Upper flammability limit		No data available	
Lower flammability limit		No data available	
Vapor Pressure		No data available	
Vapor Density		No data available	
Specific Gravity	0.93		
Water Solubility		No data available	
Solubility in other solvents		No data available	
Partition coefficient: n-octanol/wa	ater	No data available	
Autoignition Temperature		No data available	
Decomposition temperature		No data available	
Kinematic viscosity		No data available	
Dynamic viscosity		No data available	
Explosive Properties	No data available		
Oxidizing Properties	No data available		
Other Information			
Photochemically Reactive	Yes		
Weight Per Gallon (lbs/gal)	7.71		
VOC by weight %	VOC by volume %	VOC lbs/gal	VOC grams/liter
(less water)	(less water)	(less water)	(less water)
100	100	7.72	924.8
	10. STABILITY AN	ID REACTIVITY	

Reactivity No information available.

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO2). Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available. Harmful if inhaled. (based on components).
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available. Harmful in contact with skin. (based on components).
Ingestion	Specific test data for the substance or mixture is not available.

Component	Oral LD50
Ethylene glycol monopropyl ether 2807-30-9	= 3089 mg/kg (Rat)
Ethylene glycol monobutyl ether acetate 112-07-2	= 2400 mg/kg (Rat)
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	> 5000 mg/kg (Rat)
Cyclohexanone 108-94-1	= 1544 mg/kg (Rat)
Naphthalene (constituent) 91-20-3	= 1110 mg/kg (Rat)
1,2,4-Trimethylbenzene (constituent) 95-63-6	= 3280 mg/kg (Rat)

Component	Dermal LD50	
Ethylene glycol monopropyl ether 2807-30-9	= 870 mg/kg(Rabbit)	
Ethylene glycol monobutyl ether acetate 112-07-2	= 1500 mg/kg (Rabbit)	
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	> 2 mL/kg (Rabbit)	
Cyclohexanone 108-94-1	= 947 mg/kg (Rabbit)	
Naphthalene (constituent) 91-20-3	= 1120 mg/kg (Rabbit)	
1,2,4-Trimethylbenzene (constituent) 95-63-6	> 3160 mg/kg (Rabbit)	

Component	Inhalation LC50	
Ethylene glycol monopropyl ether	= 1530 ppm (Rat)7 h	
2807-30-9		
Ethylene glycol monobutyl ether acetate	> 400 ppm (Rat)4 h	
112-07-2		
Solvent naphtha, petroleum, heavy aromatic	> 590 mg/m³(Rat)4 h	
64742-94-5		
Cyclohexanone	= 8000 ppm (Rat)4 h	
108-94-1		
Naphthalene (constituent)	> 340 mg/m³(Rat)1 h	
91-20-3		
1,2,4-Trimethylbenzene (constituent)	= 18 g/m³(Rat)4 h	
95-63-6		

Information on toxicological effects

Symptoms	Specific test data for the substance or mixture is not available.
Delayed and immediate effects as	s well as chronic effects from short and long-term exposure
Skin corrosion/irritation	Specific test data for the substance or mixture is not available. Causes skin irritation (pain, redness and swelling). (based on components).
Eye damage/irritation	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components).
Irritation	Specific test data for the substance or mixture is not available.
Corrosivity	Specific test data for the substance or mixture is not available.
Sensitization	Specific test data for the substance or mixture is not available.
Mutagenic Effects	Specific test data for the substance or mixture is not available.
Carcinogenic effects	Specific test data for the substance or mixture is not available. Suspected of causing cancer. (based on components).
Reproductive Effects	Specific test data for the substance or mixture is not available.
STOT - single exposure	Specific test data for the substance or mixture is not available.
STOT - repeated exposure	Specific test data for the substance or mixture is not available.
Chronic Toxicity	Specific test data for the substance or mixture is not available
Aspiration hazard	Specific test data for the substance or mixture is not available. May be fatal if swallowed and enters airways. (based on components).
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.
Component	ACGIH

	ACGIH
Ethylene glycol monobutyl ether acetate	A3
112-07-2	
Cyclohexanone	A3
108-94-1	
Naphthalene (constituent)	A3
91-20-3	

Component	IARC
Naphthalene (constituent)	Group 2B
91-20-3	

Component	NTP
Naphthalene (constituent)	Reasonably Anticipated
91-20-3	
Component	OSHA
Naphthalene (constituent)	

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

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

ATEmix (oral)	6,191.00 mg/kg
ATEmix (dermal)	1,528.00 mg/kg mg/l
ATEmix (inhalation-dust/mist)	3.00 mg/l
ATEmix (inhalation-vapor)	22.00 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

91-20-3

Specific test data for the substance or mixture is not available. Harmful to aquatic life with long lasting effects. (based on components).

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Algae/aquatic plants
Ethylene glycol monobutyl ether acetate	72h EC50 Desmodesmus subspicatus: > 500 mg/L

112-07-2	
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Component	Fish
Solvent naphtha, petroleum, heavy aromatic	96h LC50 Pimephales promelas: = 19 mg/L (static)
64742-94-5	96h LC50 Oncorhynchus mykiss: = 2.34 mg/L
	96h LC50 Lepomis macrochirus: = 1740 mg/L (static)
	96h LC50 Pimephales promelas: = 45 mg/L (flow-through)
	96h LC50 Pimephales promelas: = 41 mg/L
Cyclohexanone	96h LC50 Pimephales promelas: 481 - 578 mg/L (flow-through)
108-94-1	96h LC50 Pimephales promelas: = 8.9 mg/L
Naphthalene (constituent)	96h LC50 Pimephales promelas: 5.74 - 6.44 mg/L (flow-through)
91-20-3	96h LC50 Pimephales promelas: = 1.99 mg/L (static)
	96h LC50 Lepomis macrochirus: = 31.0265 mg/L (static)
	96h LC50 Oncorhynchus mykiss: = 1.6 mg/L (flow-through)
	96h LC50 Oncorhynchus mykiss: 0.91 - 2.82 mg/L (static)
1,2,4-Trimethylbenzene (constituent)	96h LC50 Pimephales promelas: 7.19 - 8.28 mg/L (flow-through)
95-63-6	
Component	Crustacea
Ethylene glycol monobutyl ether acetate	48h EC50 Daphnia magna: = 37 mg/L
112-07-2	

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112-07-2	
Solvent naphtha, petroleum, heavy aromatic	48h EC50 Daphnia magna: = 0.95 mg/L
64742-94-5	
Naphthalene (constituent)	48h EC50 Daphnia magna: 1.09 - 3.4 mg/L Static
91-20-3	48h EC50 Daphnia magna: = 1.96 mg/L Flow through
	48h LC50 Daphnia magna: = 2.16 mg/L
1,2,4-Trimethylbenzene (constituent)	48h EC50 Daphnia magna: = 6.14 mg/L
95-63-6	

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Component	Partition coefficient	
Ethylene glycol monobutyl ether acetate 112-07-2	1.51	
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	2.9 - 6.1	
Cyclohexanone 108-94-1	0.86	
Naphthalene (constituent) 91-20-3	3.6	
1,2,4-Trimethylbenzene (constituent) 95-63-6	3.63	

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods		
Waste Disposal Methods	Contain and dispose of waste according to local regulations.	
Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.		
14. TRANSPORT INFORMATION		
Note:	This information is not intended to convey all specific transportation requirements relating to this product. Transportation classifications may vary by container volume and may be	

influenced by regional or country variations in regulations. Additional transportation information can be found in the specific regulations for your mode of transportation. It is the

	responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.
<u>DOT</u>	In the U.S. and Canada, this material may be reclassified as a combustible liquid and is not regulated, via surface transportation, in containers less than 119 gallons or 450 liters [per 49 CFR 173.150 (f)] [per Transportation of Dangerous Goods Regulations/Clear Language Part 1.33].
UN/ID no.	UN1210
Proper Shipping Name	Printing Ink
Hazard Class	3
Packing Group	
ICAO / IATA / IMDG / IMO UN/ID no. Proper Shipping Name Hazard Class Packing Group	UN1210 Printing Ink 3 III

15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact:. Supplier (manufacturer/importer/downstream user/distributor).

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.

component	CAS-NO	weight %	Values
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60	1.0
Ethylene glycol monopropyl ether	2807-30-9	30 - 60	1.0
Naphthalene (constituent)	91-20-3	1 - 5	0.1

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:.

Component	CAS-No	Weight %
Ethylene glycol monobutyl ether acetate	112-07-2	30 - 60
Ethylene glycol monopropyl ether	2807-30-9	30 - 60
Naphthalene (constituent)	91-20-3	1 - 5

U.S. State Regulations

	Massachusetts Right To Know
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

	Minnesota Right To Know
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X

1,2,4-Trimethylbenzene (constituent) 95-63-6	x

Component	New Jersey Right To Know
Ethylene glycol monopropyl ether 2807-30-9	X
Ethylene glycol monobutyl ether acetate 112-07-2	X
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

	Pennsylvania Right To Know
Ethylene glycol monopropyl ether 2807-30-9	X
Ethylene glycol monobutyl ether acetate 112-07-2	X
Cyclohexanone 108-94-1	X
Naphthalene (constituent) 91-20-3	X
1,2,4-Trimethylbenzene (constituent) 95-63-6	X

<u>California Prop. 65</u> This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

Component	California Prop. 65
Naphthalene (constituent)	Carcinogen

<u>Canada</u>

Component	NPRI - National Pollutant Release Inventory		
Ethylene glycol monopropyl ether 2807-30-9	Part 5, Other Groups and Mixtures; Part 4 Substance		
Ethylene glycol monobutyl ether acetate 112-07-2	Part 5, Other Groups and Mixtures; Part 4 Substance		
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	Part 5, Other Groups and Mixtures; Part 4 Substance		
Cyclohexanone 108-94-1	Part 4 Substance		
Naphthalene (constituent) 91-20-3	Part 1, Group A Substance; Part 4 Substance		
1,2,4-Trimethylbenzene (constituent) 95-63-6	Part 5, Individual Substances; Part 4 Substance		

16. OTHER INFORMATION				
HMIS:	Health 2 *	Flammability 2	Reactivity 0	Personal Protection

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION		
TWA	TWA (time-weighted average)	
STEL	STEL (Short Term Exposure Limit)	
Ceiling	Maximum limit value	

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen A2 - Suspected Human Carcinogen A3 - Animal Carcinogen IARC: (International Agency for Research on Cancer) Group 1 - Carcinogenic to Humans Group 2A - Probably Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans NTP: (National Toxicity Program) Known - Known Carcinogen Reasonably Anticipated to be a Human Carcinogen OSHA: (Occupational Safety & Health Administration) X - Present

Revision Date May-15-2019

Pursuant to NOM-018-STPS-2015

This information within is considered correct but is not exhaustive and will be used for guidance only, which is based on the current knowledge of the substance or mixture and is applicable to the appropriate safety precautions for the product.

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet