



**Kemgard® HPSS**

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03  
Canadian Workplace Hazardous Material Information System (WHMIS) 2015  
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015  
GHS (Globally Harmonized System)

**Issue Date** 01/Jan/2024  
**Print Date** 14/Dec/2023

**Revision Number** 1.3.1  
**Page** 1 of 13

## **SECTION 1: Identification of the substance/mixture and of the company/undertaking**

### **1.1. Product identifier**

**Product Name:** Kemgard® HPSS  
**Pure substance/mixture** Mixture

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

**Recommended Use** Flame retardant Smoke suppressant  
**Uses advised against** None known.

### **1.3. Details of the supplier of the safety data sheet**

**Company:** J.M. Huber Corporation  
3100 Cumberland Boulevard, Suite 600  
Atlanta, GA 30339 USA  
Tel: +1 678 247-7300

**Internet** [www.huberadvancedmaterials.com](http://www.huberadvancedmaterials.com)

**Contact E-Mail** [www.huberadvancedmaterials.com/contact](http://www.huberadvancedmaterials.com/contact)

**1.4. Emergency telephone number** CHEMTREC: +1 800 424 9300 or International +1 703 527 3887

## **SECTION 2: Hazards identification**

### **2.1. Classification of the substance or mixture**

#### **GHS Classification**

**Physical Hazards** Not classified  
**Health Hazards** Specific target organ toxicity (STOT) - repeated exposure, category 2  
**Environmental Hazard** Acute Aquatic Toxicity: Category 1  
Chronic Aquatic Toxicity: Category 1

### **2.2. Label elements**

# Safety Data Sheet

Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 2 of 13

## Symbols/Pictograms



### Signal Word

Warning

### Hazard Statements

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

## Precautionary Statements

### Prevention

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

P260 - Do not breathe dust

P273 - Avoid release to the environment

### Response

P314 - Get medical advice/attention if you feel unwell

P391 - Collect spillage

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]

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

### Storage

Store away from incompatible materials

### Disposal

P501 - Dispose of contents/containers in accordance with local regulations

Hazards not otherwise classified None known.  
(HNOC)

## SECTION 3: Composition/information on ingredients

Pure substance/mixture

Mixture

| Chemical Name         | CAS Number               | Weight-% |
|-----------------------|--------------------------|----------|
| Magnesium Hydroxide   | 1309-42-8                | >25      |
| Zinc Oxide            | 1314-13-2                | 10-30    |
| Zinc Molybdenum Oxide | 22914-58-5<br>61583-60-6 | >5       |

## SECTION 4: First aid measures

# Safety Data Sheet

**Kemgard® HPSS****Issue Date** 01/Jan/2024**Print Date** 14/Dec/2023**Revision Number** 1.3.1**Page** 3 of 13

## 4.1. Description of first aid measures

|  |  |
|--|--|
| <b>General Advice</b>  | Do not handle until all safety precautions have been read and understood. Employ good industrial hygiene practice. Wear suitable protective clothing, gloves and eye/face protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. When in doubt or if symptoms are observed, get medical advice. |
| <b>Eye Contact</b>   | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.   |
| <b>Skin Contact</b>  | Wash with plenty of soap and water.  |
| <b>Ingestion</b>   | Rinse mouth thoroughly with water.   |
| <b>Inhalation</b>  | Do not breathe dust. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.   |
| <b>Aspiration hazard</b>   | Not an expected route of exposure.   |
| <b>4.2. Most important symptoms and effects, both acute and delayed</b>                | May cause irritation to mucous membranes and respiratory tract. Contact with dust can cause mechanical irritation or drying of the skin.   |
| <b>4.3. Indication of any immediate medical attention and special treatment needed</b> | Treatment should be symptomatic and supportive. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.   |

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable Extinguishing Media**Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).**Unsuitable Extinguishing Media**

None known.

### 5.2. Special hazards arising from the substance or mixture

None known.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.

# Safety Data Sheet

Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 4 of 13

**Fire-fighting measures**

Water mist may be used to cool closed containers. No special fire protection measures are necessary. Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Ensure adequate ventilation. Use personal protection recommended in Section 8. Keep unauthorized personnel away.

**For non-emergency personnel**

Keep unauthorized personnel away.

**For emergency responders**

Keep unauthorized personnel away. Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

Avoid runoff to waterways and sewers.

**6.3. Methods and material for containment and cleaning up**

Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust Small Spill: Vacuum or sweep material and place in a disposal container

**6.4. Reference to other sections**

Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Do not breathe dust. Ensure adequate ventilation. Wear appropriate personal protective clothing to prevent skin contact. Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

Keep container tightly closed and dry. Store away from incompatible materials.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters****Occupational exposure limits**

# Safety Data Sheet

**Kemgard® HPSS****Issue Date** 01/Jan/2024**Print Date** 14/Dec/2023**Revision Number** 1.3.1**Page** 5 of 13**Magnesium Hydroxide**

OSHA

TWA: 15 mg/m<sup>3</sup> total dust

ACGIH

5 mg/m<sup>3</sup> respirable

NIOSH

TLV-TWA: 8-hr : 10 mg/m<sup>3</sup> (total dust)

Canada

3 mg/m<sup>3</sup> (respirable fraction)TWA 15 mg/m<sup>3</sup> (total dust)

Not established

**Zinc Oxide**

OSHA

PEL: 15 mg/m<sup>3</sup> (total dust)

ACGIH

5 mg/m<sup>3</sup> (respirable fraction)

NIOSH

STEL: 10 mg/m<sup>3</sup> (respirable)TWA: 2 mg/m<sup>3</sup> (respirable)Ceiling: 15 mg/m<sup>3</sup> (total dust)STEL: 10 m/m<sup>3</sup> (fume)TWA: 5 mg/m<sup>3</sup> (total dust)10 mg/m<sup>3</sup>

Canada - British Columbia - OEL-

STELs

Canada - Ontario - OEL - STEVs

10 mg/m<sup>3</sup> STEV

Canada - Ontario - OEL - TWA EVs

2 mg/m<sup>3</sup>**Zinc Molybdenum Oxide**

OSHA

TWA: 5 mg/m<sup>3</sup> (respirable); 10 mg/m<sup>3</sup> (dust)

ACGIH

PEL: 5 mg/m<sup>3</sup> (respirable)

NIOSH

TWA: 10 mg/m<sup>3</sup> dust0.5 mg/m<sup>3</sup> Respirable fractionTWA: 10 mg/m<sup>3</sup> 8-hour**PNEC (Predicted No Effect Concentration)**

No information available

**DNEL (Derived No Effect Level)**

No information available

**Biological Limit Values**

No information available

**8.2. Exposure controls****Engineering Measures**

Provide a good standard of controlled ventilation (5 to 10 air changes per hour). Use exhaust ventilation to keep airborne concentrations below exposure limits. In case of insufficient ventilation, wear suitable respiratory equipment.

**Personal protective equipment****Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

**Skin and Body Protection**

Wear suitable protective clothing.

**Hand Protection**

For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection.

**Thermal hazards**

None known. Wear suitable protective clothing.

**Hygiene Measures**

Follow general hygiene considerations recognized as common good workplace practices. The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc.

**Environmental Exposure**

Dispose of in accordance with local regulations. Do not empty into drains or water

# Safety Data Sheet

Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 6 of 13

Controls

courses.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Appearance:**

|                                |                           |
|--------------------------------|---------------------------|
| Physical State                 | Solid Powder              |
| Color                          | White                     |
| Odor                           | Odorless                  |
| Odor Threshold                 | No information available  |
| pH:                            | 8.9                       |
| Melting Point / Melting Range  | No information available  |
| Melting point / Freezing point | Not applicable            |
| Initial boiling point          | No information available  |
| Boiling Point                  | No information available  |
| Freezing Point                 | No information available  |
| Flash Point                    | Not determined            |
| Evaporation Rate               | Not applicable.           |
| Flammability (solid, gas)      | No information available  |
| Upper flammability limit:      | --                        |
| Lower flammability limit:      | --                        |
| Vapor Pressure                 | No data available         |
| Vapor Density                  | Not applicable            |
| Vapor Density                  | Not applicable            |
| Density                        | No data available         |
| Relative Density               | 3.5                       |
| Water Solubility               | Slightly soluble          |
| Solubility in other solvents   | No information available  |
| Partition coefficient          | No data available         |
| Autoignition Temperature       | No data available         |
| Decomposition Temperature      | No information available  |
| Viscosity                      | No information available. |
| Kinematic viscosity            | Not applicable            |
| Oxidizing Properties           | Not applicable            |
| Particle Size                  | No information available  |
| VOC Content (%)                | Not applicable            |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Not applicable

#### 9.2.2. Other safety characteristics

Not applicable

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

# Safety Data Sheet

## Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 7 of 13

|  |                                       |
|--|---------------------------------------|
| 10.2. Chemical stability                 | Stable under normal conditions        |
| 10.3. Possibility of hazardous reactions | None under normal processing          |
| 10.4. Conditions to avoid                | Dust formation Incompatible materials |
| 10.5. Incompatible materials             | Strong oxidizing agents               |
| 10.6. Hazardous decomposition products   | None known                            |

## SECTION 11: Toxicological information

**General Information** Users are advised to consider national Occupational Exposure Limits or other equivalent values.

### 11.1. Information on toxicological effects

#### Magnesium Hydroxide

Oral LD50 8500 mg/kg Rat

#### Zinc Oxide

LD50s and LC50s 5000 mg/kg Oral LD50 Rat

Oral LD50 7950 mg/kg Rat

#### Zinc Molybdenum Oxide

Oral LD50 >10000 mg/kg Rat

IARC Not Listed

Target Organ Effects Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day)

**Acute Toxicity** Low hazard for usual industrial or commercial handling

**Respiratory Sensitization** Does not cause sensitization

**Serious eye damage/eye irritation** Dust may cause mechanical irritation to eyes

**Skin Corrosion/Irritation** Contact with dust can cause mechanical irritation or drying of the skin

**Skin Sensitization** Not a skin sensitizer

**Germ cell mutagenicity** No data available.

**Reproductive Effects** This product does not contain any known or suspected reproductive hazards.

**Carcinogenicity** This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

# Safety Data Sheet

**Kemgard® HPSS****Issue Date** 01/Jan/2024**Print Date** 14/Dec/2023**Revision Number** 1.3.1**Page** 8 of 13**Target Organ Effects** Skin. Eyes. Respiratory system.**Specific target organ toxicity - Single exposure** No data available.**Specific target organ toxicity - Repeated exposure** May cause damage to organs through prolonged or repeated exposure if inhaled. Kidney.**Information on Likely Routes of Exposure****Inhalation** May cause respiratory tract irritation**Ingestion** Ingestion is not a likely route of exposure**Skin** No known hazard in contact with skin**Eyes** Dust contact with the eyes can lead to mechanical irritation**Aspiration hazard** Not an expected route of exposure.**Symptoms related to the physical, chemical and toxicological characteristics** Dust may cause mechanical irritation to eyes.**11.2. Information on other hazards****11.2.1. Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors**11.2.2. Other information** Not applicable

## SECTION 12: Ecological information

**12.1. Toxicity** Very toxic to aquatic life with long lasting effects**Magnesium Hydroxide****WGK Classification (AwSV)** 5209 WGK: nwg**Zinc Oxide****WGK Classification (AwSV)** 2187 WGK: 2**12.2. Persistence and degradability** No data available.**12.3. Bioaccumulative potential** No data available.**Partition coefficient** No data available



# Safety Data Sheet

**Kemgard® HPSS****Issue Date** 01/Jan/2024**Print Date** 14/Dec/2023**Revision Number** 1.3.1**Page** 9 of 13

**Bioconcentration factor (BCF)** No data available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** This substance does not meet the criteria for classification as PBT or vPvB.

**12.6. Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal Methods** Dispose of waste product or used containers according to local regulations. Do not allow to enter into surface water or drains.

**Contaminated Packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Waste codes** Waste codes should be assigned by the user based on the application for which the product was used

#### Magnesium Hydroxide

**European Waste Catalog** 060299

**WGK Classification (AwSV)** 5209 WGK: nwg

#### Zinc Oxide

**WGK Classification (AwSV)** 2187 WGK: 2

## SECTION 14: Transport information

### Mode of Transportation (Road, Water, Air, Rail)

|                    |   |
|--------------------|---|
| <b>TDG -Canada</b> | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)   |
| <b>DOT</b>         | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate),<br>, Not regulated in non-bulk packages (<119 gal) |
| <b>ADR</b>         | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)   |
| <b>RID</b>         | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)   |
| <b>ADN</b>         | UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)   |

# Safety Data Sheet

**Kemgard® HPSS****Issue Date** 01/Jan/2024**Print Date** 14/Dec/2023**Revision Number** 1.3.1**Page 10 of 13****IATA**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)

**IMDG/IMO**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)

**ICAO**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide)

**14.1. UN number**

UN3077

**14.2. UN proper shipping name**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)

**14.3. Transport hazard class(es)** 9**14.4. Packing group**

III

**14.5. Environmental hazards**

Yes Marine Pollutant

**EmS:**

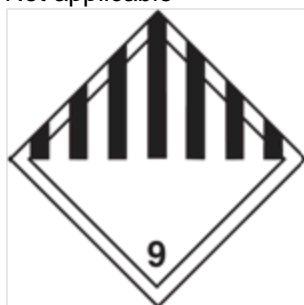
F-A, S-F

**14.6. Special precautions for user**

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

**14.7. Maritime transport in bulk according to IMO instruments**

Not applicable

**Marine Pollutant**

# Safety Data Sheet

Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 11 of 13

## SECTION 15: Regulatory information

### Global Inventories

Pure substance/mixture

Mixture

| Chemical Name         | CAS Number               | EC No     | EU REACH registration number  | Australia (AIC) | Canada (DSL)  | China (IECSC) | Japan                                | S. Korea (KECL) | Mexico                  | New Zealand | Philippines (PICCS) | Taiwan | TSCA: United States |
|-----------------------|--------------------------|-----------|-------------------------------|-----------------|---|---------------|--------------------------------------|-----------------|-------------------------|-------------|---------------------|--------|---------------------|
| Magnesium Hydroxide   | 1309-42-8                | 215-170-3 | 01-211948<br>8756-18-0<br>040 | Y               | Y   | Y             | (1)-386<br>(ENCS)<br>(ISHL)          | KE-22716        | Y                       | Y           | Y                   | Y      | A                   |
| Zinc Oxide            | 1314-13-2                | 215-222-5 | 01-211946<br>3881-32          | Y               | Y   | Y             | ENCS:<br>(1)-561<br>ISHL:<br>(1)-561 | KE-35565        | Y                       | Y           | Y                   | Y      | A                   |
| Zinc Molybdenum Oxide | 22914-58-5<br>61583-60-6 | 245-322-4 | 01-212080<br>0481-68-0<br>000 | N               | Y:<br>DSL-2291<br>4-58<br>-5<br>NDSL:<br>61583-60-<br>6 | Y             | (1)-781<br>(ENCS)(ISHL)              | KE-11910        | Y:<br>(MO-gene<br>rics) | Y           | Y                   | Y      | A                   |

### US Federal Regulations

#### EPA

##### Zinc Oxide

SARA 313

Listed

##### Zinc Molybdenum Oxide

CERCLA

Listed

SARA 313

Listed

#### SARA 311/312 Hazardous Categorization

None

#### CWA (Clean Water Act)

Zinc Oxide (CAS 1314-13-2)

Zinc Molybdenum (CAS 22914-58-5)

#### CAA (Clean Air Act)

The components of this product are not regulated under any of the following sections of the Clean Air Act: Section 112 Hazardous Air Pollutants, Section 112 Statutory Air Pollutants, Section 112 High-Risk Pollutants, Section 112(r) Accidental Release Prevention Substances or Section 602 Ozone Depleting Substance. As a powder product, it would be regulated under Section 109 Criteria Pollutants particulates.

### U.S. State Right-to-Know Regulations

| Chemical Name       | CAS Number | California Proposition 65 | Massachusetts | Minnesota | New Jersey | Pennsylvania |
|---------------------|------------|---------------------------|---------------|-----------|------------|--------------|
| Magnesium Hydroxide | 1309-42-8  | N                         | N             | N         | N          | N            |
| Zinc Oxide          | 1314-13-2  | N                         | Y             | Y         | Y          | Y            |

# Safety Data Sheet

Kemgard® HPSS

Issue Date 01/Jan/2024

Print Date 14/Dec/2023

Revision Number 1.3.1

Page 12 of 13

|                       |                          |   |   |   |   |   |
|-----------------------|--------------------------|---|---|---|---|---|
| Zinc Molybdenum Oxide | 22914-58-5<br>61583-60-6 | N | Y | Y | Y | Y |
|-----------------------|--------------------------|---|---|---|---|---|

## California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any Proposition 65 chemicals

## CANADA

### WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

## SECTION 16: Other information

|                            |   |
|----------------------------|---|
| Prepared by                | Huber Engineered Materials (HEM) Global Regulatory Affairs<br>regulatory.affairs@huber.com  |
| Issue Date                 | 01/Jan/2024   |
| Print Date                 | 14/Dec/2023   |
| Revision Number            | 1.3.1   |
| Reason for Version         | OSHA (Occupational Safety and Health Administration of the US Department of Labor).   |
| Training Advice            | Do not handle until all safety precautions have been read and understood  |
| Abbreviations and acronyms | <p>IARC (International Agency for Research on Cancer)<br/>           IATA (International Air Transport Association)<br/>           IMDG (International Maritime Dangerous Goods)<br/>           IUCLID (International Uniform Chemical Information Database)<br/>           WHMIS (Workplace Hazardous Materials Information System)<br/>           DOT (Department of Transportation)<br/>           OSHA (Occupational Safety and Health Administration of the US Department of Labor)<br/>           TWA (Time-Weighted Average)<br/>           CLP (The Classification, Labeling and Packaging of Substances and Mixtures Regulation (EC 1272/2008))<br/>           PPE (Personal Protection Equipment)<br/>           NIOSH (National Institute for Occupational Safety and Health)<br/>           TDG (Transport of Dangerous Goods) Canada<br/>           CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)<br/>           RQ (Reportable Quantity) (RQ/% in mixture)<br/>           STEL (Short Term Exposure Limit)<br/>           TLV® (Threshold Limit Value)<br/>           DNEL (Derived No Effect Level)<br/>           SVHC (Substances of Very High Concern)<br/>           BOD (Biochemical oxygen demand)<br/>           COD (Chemical oxygen demand)<br/>           ICAO (International Civil Aviation Organization)<br/>           IMDG (International Maritime Dangerous Goods)<br/>           ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)<br/>           RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)<br/>           SCBA (Self-Contained Breathing Apparatus) Positive Pressure<br/>           GHS (Globally Harmonized System)<br/>           SARA (Superfund Amendments and Reauthorization Act of 1986)<br/>           TSCA (Toxic Substances Control Act)</p> |

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge,

HUBER

# Safety Data Sheet

**Kemgard® HPSS**

**Issue Date** 01/Jan/2024

**Print Date** 14/Dec/2023

**Revision Number** 1.3.1

**Page 13 of 13**

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**