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| Safety Data Sheet Voluntary Product Information |  | Product: 4919 siaral 8 Version: 01 Printing: 6-Jun-17 page 1 of 11 |
| Safety Data Sheet for coated, nonwoven and foam abrasives | | |

1. Identification of the product and of the company/undertaking

1.1 Product identifier

Series, name: 4919 siaral 8
Grit range: 16 to 120
Reverse-Side: plain

1.2 Use of the product

Recommended use:

Coated abrasives on backing for grinding/ sanding different materials

1.3 Details of the supplier of the voluntary product information:

Company: sia Abrasives Industries AG
Address: Mühlewiesenstrasse 20
CH-8501 Frauenfeld
Switzerland
E-mail: msds.ch@sia-abrasives.com

2. Hazards identification

2.1. Classification

Not applicable

Abrasives are articles and not dangerous substances or mixtures according to Regulation (EC) N° 1272/2008.

See also section 8 and 16.

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Abrasives are articles and not dangerous substances or mixtures and therefore no labelling is required according to Regulation (EC) N° 1272/2008.

Signal word: Not applicable
Symbols: Not applicable
Pictograms: Not applicable
Notes to Physician: Not applicable

2.3. Other hazards

Not known.

3. Composition/information on ingredients

The product contains the following ingredients which are classified according to Regulation (EC) Nr. 1272/2008 or for which a community occupational exposure limit value exists:

| Substance | CAS-N° (if available) | REACH Reg. N° (if available) | Conc. (%) | Classification acc. to Regulation (EC) N° 1272/2008 (CLP) | |
|--------------------------------|------------------------------|-------------------------------------|-------------|---|-------------------|
| | | | | Hazard classes/ hazard categories | Hazard statements |
| Aluminum Oxide | 1344-28-1 | 215-691-6 | 12.0 - 37.0 | Not classified | |
| Iron Oxide, Dust & Fume, as Fe | 1309-37-1 | 215-168-2 | 0.0 - 1.2 | Not classified | |
| Monoethylene Glycol | 107-21-1 | 203-473-3 | 0.1 - 0.4 | Acute tox. 4 | H302 |
| Polyvinyl | 9003-20-7 | | 5.7 - 8.3 | Not classified | |
| Potassium Cryolite | 13775-52-5 | 237-409-0 | 0.0 - 3.6 | Not classified | |
| Titanium Dioxide | 13463-67-7 | 236-675-5 | 0.0 - 0.9 | Not classified | |
| Backing | mixture | | 38.0 - 75.0 | Not classified | |

(For full text of H-phrases see section 16)

Remark:

No PDMS (silicone-oils) present in this product

4. First aid measures

See also section 8 and 16

4.1. Description of first aid measures

- Inhalation:** Not possible, due to the form of the product. If dust is inhaled, move person to fresh air. If breathing is difficult, have qualified personnel administer oxygen. Seek medical attention if irritation or other symptoms persist.
- Eye contact:** Remove contact lenses if present and easy to do so. Flush eyes thoroughly with large amounts of water, holding eyelids open. If irritation persists, seek medical attention.
- Skin contact:** Wash skin with soap and water. If irritation or other symptoms develop, seek medical attention.
- Ingestion:** Not likely, due to the form of the product. In the event of, do not induce vomiting. Rinse mouth with water. Seek medical attention if a large amount is swallowed or if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Not known, but dust may cause eye and respiratory irritation. Prolonged inhalation of high concentration of dust may cause adverse effects on the lungs.
 See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment needed

Not relevant. Treat symptomatically. Immediate medical attention should not be required.

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5. Fire fighting measures

5.1. Suitable (and unsuitable) extinguishing media:

In case of fire: Use a fire fighting agent suitable for ordinary combustible material and appropriate for surrounding area such as: water, foam, sand, powder or CO₂

5.2. Special hazards arising from the product

Toxic fumes (CO, CO₂, NO_x, HCN, aldehydes, including CH₂O) may occur. Particulate matter and other organic compounds may be formed during combustion. Use respiratory protective equipment.

5.3. Special protective equipment and precautions for fire-fighters

Extinguishing materials should be selected according to the surrounding area.
Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

6. Accidental release measures

6.1. Personal precautions, protective equipment, and emergency procedures

Wear appropriate respirator and protective clothing as needed to avoid eye contact and inhalation of dust.

6.2. Environmental precautions

Avoid contamination of water supplies and environmental releases. Report spills as required to authorities.

6.3. Methods and materials for containment and cleaning up

Carefully collect dry material, avoiding the creation of airborne dust. Place in a suitable container for disposal.

7. Handling and storage

Follow instructions of grinding machine manufacturers and the relevant national regulations. In addition, observe the safety recommendations of the manufacturer.

7.1. Precautions for safe handling

Avoid breathing dust. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wear suitable gloves, eye protection and appropriate protective clothing according to the operation. Wash thoroughly after handling. Consider potential exposure to components of the materials or coatings being processed. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

Combustible dust could be generated during the normal use of this product. The dust could be explosive if in sufficient concentration with an ignition source.

Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions

7.2. Conditions for safe storage, including any incompatibilities

No special storage required.

8. Exposure controls/personal protection

8.1. Control parameters

Before grinding it is recommended to perform a risk assessment and to use personal protection equipment accordingly.

Note: Consider also components of base materials and coatings being processed.
 Hazardous dust of the workpiece material may be generated during grinding and/or sanding operations. National regulations for dust exposure limit values have to be taken into consideration.

Occupational exposure limit values and/or biological limit values

Occupational exposure limit values and/or biological limit values

| Substance | CAS-N° (if available) | Occupational limit value / PEL | | | | | | | |
|--------------------------------|------------------------------|--------------------------------|--------|--------------|-------------|-------------|-----|--------------|-------------|
| | | Long term / TWA | | | | | | | |
| | | mg/m³ | | | | ml/m³ (ppm) | | | |
| | | CH | GER | USA NISHO | USA OSHA | CH | GER | USA NISHO | USA OSHA |
| Aluminum Oxide | 1344-28-1 | 3 a | 1.25 a | 5 a | NA | NA | NA | NA | NA |
| Iron Oxide, Dust & Fume, as Fe | 1309-37-1 | 3 a | NA | 5 a | 10 | NA | NA | NA | NA |
| Monoethylene Glycol | 107-21-1 | NA | NA | NA | NA | NA | NA | NA | NA |
| Polyvinyl | 9003-20-7 | NA | NA | NA | NA | NA | NA | NA | NA |
| Potassium Cryolite | 13775-52-5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Titanium Dioxide | 13463-67-7 | 3 a | 1.25 a | 15 TD | 10 TD | NA | NA | NA | NA |
| Backing | mixture | NA | NA | NA | NA | NA | NA | NA | NA |

| Substance | CAS-N° (if available) | Occupational limit value / PEL | | | | | | | |
|--------------------------------|------------------------------|--------------------------------|-----|--------------|-------------|-------------|-----|--------------|-------------|
| | | Short term / STEL | | | | | | | |
| | | mg/m³ | | | | ml/m³ (ppm) | | | |
| | | CH | GER | USA NISHO | USA OSHA | CH | GER | USA NISHO | USA OSHA |
| Aluminum Oxide | 1344-28-1 | NA | NA | NA | NA | NA | NA | NA | NA |
| Iron Oxide, Dust & Fume, as Fe | 1309-37-1 | NA | NA | NA | NA | NA | NA | NA | NA |
| Monoethylene Glycol | 107-21-1 | NA | NA | NA | NA | NA | NA | NA | NA |
| Polyvinyl | 9003-20-7 | NA | NA | NA | NA | NA | NA | NA | NA |
| Potassium Cryolite | 13775-52-5 | NA | NA | NA | NA | NA | NA | NA | NA |
| Titanium Dioxide | 13463-67-7 | NA | NA | NA | NA | NA | NA | NA | NA |
| Backing | mixture | NA | NA | NA | NA | NA | NA | NA | NA |

| Substance | CAS-N° (if available) | Peak limit | | | | Source |
|--------------------------------|------------------------------|------------|-----|--------------|-------------|------------------------|
| | | mg/m³ | | | | |
| | | CH | GER | USA NISHO | USA OSHA | CH |
| Aluminum Oxide | 1344-28-1 | 10 | 10 | NA | 15 | GESTIS |
| Iron Oxide, Dust & Fume, as Fe | 1309-37-1 | 10 | NA | TD | NA | GESTIS |
| Monoethylene Glycol | 107-21-1 | NA | NA | NA | NA | GESTIS |
| Polyvinyl | 9003-20-7 | NA | NA | NA | NA | GESTIS |
| Potassium Cryolite | 13775-52-5 | NA | NA | NA | NA | GESTIS |
| Titanium Dioxide | 13463-67-7 | 10 | 10 | NA | NA | GESTIS |
| Backing | mixture | NA | NA | NA | NA | GESTIS |

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Abbreviation:

e: einatembar / inhalable
a: alveoleongängig/ respirable
NA: nicht zutreffend/ not applicable

EUROP:

Longterm: The employee's average airborne exposure in any 8-hour work shift of a 42-hour work week which shall not be exceeded.
Shortterm: Maximum exposure of four 15min periods per 8 hour shift, with at least 60 minutes between exposure periods

USA

PEL: Permitted Exposure Limits
TWA: The employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded.
STEL: Maximum exposure of four 15min periods per 8 hour shift, with at least 60 minutes between exposure periods

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8.2. Exposure controls

8.2.1. Appropriate engineering controls

Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

8.2.2. Personal Protective Equipment

8.2.1.1. Respiratory protection:

Use respiratory protective equipment, type depends on specific application and material being ground. Consider the potential for exposure to components of the coatings or base material being processed in selecting proper respiratory protection. Refer to OSHA's specific standards for lead, cadmium, etc. where appropriate. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134 and ANSI Z88.2 or other applicable regulations and standards and good Industrial Hygiene practice.

8.2.1.2. Hand protection:

Wear protective gloves to avoid skin abrasion when handling type depends on specific application and material being ground.

8.2.1.3. Eye protection:

Wear protective goggles with side shields or face shield type depends on specific application and material being ground. To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. Select and use eye/face protection to prevent contact based on the results of an exposure assessment.

8.2.1.4. Hearing protection:

Use hearing protection type depends on specific application and material being ground.

8.2.1.5. Body protection:

Use protective clothing type depends on specific application and material being ground.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|----------------------------------|
| General Physical Form | Solid |
| Product Appearance | Grün granular solid (crystals) |
| Odor, Color, Grade | Solid abrasive product, no odor. |
| Odor threshold | Not Applicable |
| pH | Not Applicable |
| Melting point | Not Applicable |
| Boiling Point | Not Applicable |
| Flash Point | Not Applicable |
| Evaporation rate | Not Applicable |
| Flammability (solid, gas) | Not Classified |
| Flammable Limits(LEL) | Not Applicable |
| Flammable Limits(UEL) | Not Applicable |
| Vapor Pressure | Not Applicable |
| Vapor Density | Not Applicable |
| Specific Gravity | Not Applicable |
| Solubility In Water | Not Applicable |
| Solubility- non-water | Not Applicable |
| Partition coefficient: n-octanol/ water | Not Applicable |
| Autoignition temperature | Not Applicable |
| Decomposition temperature | Not Applicable |
| Viscosity | Not Applicable |

9.2. Other information

None.

10. Stability and reactivity

10.1. Reactivity

Product is stable when handled or stored correctly.

10.2. Chemical stability

No decomposition in normal use.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Product is stable when handled or stored correctly.

10.5. Incompatible materials

No dangerous reactions known.

10.6. Hazardous decomposition products

None known. At temperatures exceeding 250° C hazardous or toxic decomposition products may be generated – see section 5.2

11. Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on acute effects of exposure

11.1.1. Inhalation

Breathing dust may cause irritation to the nose, throat and upper respiratory tract.

11.1.2. Skin Contact

May cause abrasive skin irritation.

11.1.3. Eye Contact

May cause abrasive irritation and injury.

11.1.3. Ingestion

Not toxic. Swallowing may cause gastrointestinal disturbances.

11.1.4. Chronic Health Effects

Prolonged inhalation of respirable dust may cause adverse lung effects. Most of the dust generated during abrasive processes is from the base material being processed and the potential hazard from this exposure must be evaluated.

11.1.5. Sensitization

Aluminium oxide was negative in a sensitization studies in guinea pigs.

11.1.6. Germ Cell Mutagenicity

This product is not expected to present a risk of genetic damage. Negative in a bacterial recombination assay.

11.1.7. Reproductive Toxicity

No specific data is available; however, this product is not expected to present a risk of adverse reproductive or developmental toxicity.

11.1.8. Carcinogenicity

| Name | Route | Species | Value |
|-----------------|-----------|-------------------|------------------|
| Overall product | Ingestion | No data available | not carcinogenic |

11.1.9. Acute toxicity values

| Name | Route | Species | Value |
|-----------------|-----------|-------------------|------------------------------|
| Overall product | Ingestion | No data available | calculated ATE > 5,000 mg/kg |

ATE = acute toxicity estimated

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12. Ecological information

No adverse effects on aquatic organisms are expected. However, consideration must be given to potential environment effects of the base material being processed.

12.1. Toxicity

No effects known.

12.2. Persistence and degradability

No biodegradable potentials known.

12.3. Bioaccumulative potential

No potentials known.

12.4. Mobility in soil

No potentials known.

12.5. Results of PBT and vPvB assessment

Not relevant.

12.6. Other adverse effects

No effects known.

13. Disposal considerations

13.1. Waste treatment methods

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

13.1.2. Product

Follow national and regional regulations.

Due to the ingredients and properties disposal as non hazardous waste (2000/532/EC) is possible if no hazardous materials are added to the abrasives. (EWC – Nr. 120121),

13.1.3 Packing

Follow national and regional regulations.

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14. Transport information

The product is not covered by international regulation on the transport of dangerous goods.

| | UN Number | Proper shipping name | Hazard Class | Packing Group | Environmental Hazard |
|-----|-----------|----------------------|--------------|---------------|----------------------|
| DOT | None | Not Regulated | None | None | |
| TDG | None | Not Regulated | None | None | |

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

Not determined.

14.2. Special precautions

None identified.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the product

15.1.2. European Regulation

No specific labelling requirements under respective EC directives.

15.1.3. US Federal Regulations

Contact "sia abrasives Ind. AG" for more information.

15.1.3.1 CERCLA Hazardous Substances (Section 103)/RQ:

This product is not subject to CERCLA release reporting. Many states have more stringent spill reporting requirements. Report spills in accordance with all applicable regulations.

15.1.3.2. SARA Hazard Category (311/312)

| | |
|----------------------------|----|
| Fire Hazard | No |
| Sudden Release of Pressure | No |
| Reactivity | No |
| Acute Health | No |
| Chronic Health | No |

15.1.3.3. EPA SARA 313

This product contains the following chemicals regulated under SARA Title III, section 313

| Substance | CAS-N° | Procent |
|----------------|-----------|----------|
| Aluminum Oxide | 1344-28-1 | 12 - 37% |

15.1.3.4. California Proposition 65

This product is not known to contain regulated chemicals. Dust created from abrasive processing may contain chemicals known to cause cancer, birth defects or other reproductive harm.

15.1.3.5. EPA TSCA Inventory

All of the components of this product are listed on the TSCA inventory.

15.2. Chemical safety assessment

Not relevant.

16. Other information

| | | | | | | |
|------------------------|------|---|--------|---|-----------------|---|
| NFPA RATING (NFPA 704) | FIRE | 1 | HEALTH | 1 | INSTABILITY | 0 |
| HMIS RATING | FIRE | 1 | HEALTH | 1 | PHYSICAL HAZARD | 0 |

16.1. Changes to the previous versions

See sections 1 to 16.

16.2. Literature and data sources

REACH Regulation (EC) Nr. 1907/2006
 Regulation (EC) N° 1272/2008
 Directive 98/24/EC
 Directive 2000/39/EC
 Directive 75/324/EEC
 Decision 2000/532/EC
 Transport regulations according to ADR, RID und IATA.

16.3. Hazard statements referred to in section 2 and 3

H302: Harmful if swallowed

16.4. According to Regulation (EC) N° 1272/2008:

Not applicable

The above information is based on our current standard of knowledge and does not constitute any warranty of conditions of the product and shall be used only as a guide. The information does not form part of any contractual agreement and relates only to the product designated herein and does not relate to its use in combination with any other material or process. It remains the user's responsibility to adhere existing laws and regulations.

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