

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Mixture
Trade name	: MANGALOX A
Product code	: A 45
Synonyms	: Manganese oxide (Mn ²⁺ /Mn ³⁺) ₆ (SiO ₄) ₈ + Trimanganese tetroxide

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture	: Main applications (non exhaustive list), For use in: Ceramics, Glass, frits, Concrete, pigments, welding fluxes, casting fluxes, manganese based chemicals, Oxidant for: production of glass, production of glass wool, Chemical reactions, water treatment.
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1.2.2. Uses advised against

Uses advised against	: This product must not be used in applications other than those identified above, without first seeking advice of the supplier
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1.3. Details of the supplier of the safety data sheet**Legal entity**

SCR-Sibelco NV
Plantin en Moretuslei 1A
2018 Antwerpen - Belgium

Contact details

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1.4. Emergency telephone number

Emergency number	: Sibelco: +31 43 3663755 (during office hours)
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SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Not classified

Adverse physicochemical, human health and environmental effects

Depending on the type of handling and use (e.g. grinding, drying), airborne respirable crystalline silica may be generated. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable crystalline silica dust should be monitored and controlled. This product should be handled with care to avoid dust generation.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

EUH-statements	: EUH210 - Safety data sheet available on request.
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2.3. Other hazards

Other hazards which do not result in classification	: No other hazards identified.
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- Endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605
- Other information : This product is an inorganic substance and does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Braunite, brown	(CAS-No.) 94551-57-2 (EC-No.) 305-405-9 (REACH-no) E*	> 90	Not classified
Hausmannite	(CAS-No.) 1317-35-7 (EC-No.) 215-266-5 (REACH-no) 01-2119448167-35-xxxx	< 3	Repr. 2, H361d
Quartz (fine fraction)	(CAS-No.) 14808-60-7 (EC-No.) 238-878-4 (REACH-no) E*	< 1	STOT RE 1, H372

Comments : * E: Exempted from REACH registration

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : No hazards which require special first aid measures. In all cases of doubt, or when symptoms persist, seek medical attention.
- First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air.
- First-aid measures after skin contact : Wash skin with plenty of water and soap.
- First-aid measures after eye contact : Rinse with copious quantities of water and seek medical attention if irritation persists.
- First-aid measures after ingestion : Rinse mouth. Get medical advice/attention.

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

- Symptoms/effects : No acute and delayed symptoms and effects are observed.
- Symptoms/effects after inhalation : Dust from this product may cause irritation to the respiratory tract.
- Symptoms/effects after eye contact : Dust from this product may cause eye irritation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : No specific extinguishing media is needed.
- Unsuitable extinguishing media : No restriction on the extinguishing media to be used.

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5.2. Special hazards arising from the substance or mixture

Fire hazard : Not combustible.
Hazardous decomposition products in case of fire : No hazardous thermal decomposition.

5.3. Advice for firefighters

Protection during firefighting : No specific fire-fighting protection is required.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid airborne dust generation, wear respiratory personal protective equipment in compliance with national legislation, see EN 143: 2000.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

For containment : Avoid dry sweeping and use water spraying or vacuum cleaning systems (with high-efficiency particulate air filter) to prevent airborne dust generation. Wear personal protective equipment in compliance with national legislation.

6.4. Reference to other sections

See sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. Other suitable controls may include enclosure, isolation, water suppression, respiratory protective equipment. Handle packaged products carefully to prevent accidental bursting. If you require advice on safe handling techniques, please contact your supplier. Ensure operatives are trained to minimise exposures. Regular cleaning of equipment and work area.

Hygiene measures : Do not eat, drink and smoke in work areas; wash hands after use; remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Minimise airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products so as to prevent accidental bursting.

7.3. Specific end use(s)

If you require advice on specific uses, please contact your supplier.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Additional information : Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust). For the equivalent limits in other countries, please consult a competent occupational hygienist or the local regulatory authority.

Hausmannite (1317-35-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Manganese (II,III) oxide (as Mn)
IOEL TWA	0.2 mg/m ³ (inhalable fraction) 0.05 mg/m ³ (respirable fraction)
Notes	(Year of adoption 2011)
Manganese and its inorganic compounds (Blood)	0.015 mg/l
Regulatory reference	SCOEL Recommendations
Ireland - Occupational Exposure Limits	
Local name	Trimanganese tetraoxide
OEL TWA [1]	0.5 mg/m ³
OEL STEL	1.5 mg/m ³ (calculated)
Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom - Occupational Exposure Limits	
Local name	Manganese and its inorganic compounds
WEL TWA (OEL TWA) [1]	0.05 mg/m ³ Respirable fraction (as Mn) 0.2 mg/m ³ Inhalable fraction (as Mn)

Braunite, brown (94551-57-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Manganese
IOEL TWA	0.2 mg/m ³ (inhalable fraction) 0.05 mg/m ³ (respirable fraction)
Notes	(Year of adoption 2011)
Regulatory reference	SCOEL Recommendations
Ireland - Occupational Exposure Limits	
Local name	Manganese, fume (as Mn)
OEL TWA [1]	0.2 mg/m ³ I (Inhalable Fraction) 0.02 mg/m ³ R (Respirable Fraction)
OEL STEL	3 mg/m ³
Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
United Kingdom - Occupational Exposure Limits	
Local name	Manganese and its inorganic compounds
WEL TWA (OEL TWA) [1]	0.05 mg/m ³ Respirable fraction (as Mn) 0.2 mg/m ³ Inhalable fraction (as Mn)

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8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	No information available.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Hausmannite (1317-35-7)	
DNEL/DMEL (Workers)	
Acute - systemic effects, dermal	0.004 mg/kg bodyweight/day
Acute - local effects, inhalation	0.2 mg/m ³
Long-term - systemic effects, inhalation	0.2 mg/m ³
Long-term - local effects, inhalation	0.2 mg/m ³

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Minimise airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below the exposure limit. Apply organisational measures, e.g. by isolating personnel from dusty areas. Remove and wash soiled clothing. Provide a good standard of controlled ventilation (5 to 10 air changes per hour). Local exhaust ventilation - efficiency of at least: 90%.

8.2.2. Personal protection equipment

Personal protective equipment:

Safety glasses. Dust formation: dust mask.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:
Wear safety glasses with side-shields in circumstances where there is a risk of penetrative eye injuries.

8.2.2.2. Skin protection

Skin and body protection:
Appropriate protection (e.g. gloves, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin. Wash hands at the end of each work session.

Hand protection:
Appropriate protection (e.g. gloves, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin. Wash hands at the end of each work session.

8.2.2.3. Respiratory protection

Respiratory protection:
The use of half or full face masks with filters against particles of category 2 or 3 (FP2 - FP3) is recommended. See EN 143: 2000 - Respiratory protective devices. Particle filters. Efficiency of at least: 90%

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8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid wind dispersal.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: Brown
Appearance	: Powder
Odour	: Odourless
Odour threshold	: Not available
Melting point	: > 1000 °C
Boiling point	: Not applicable
Flammability	: Not flammable
Explosive properties	: Not applicable (not flammable)
Explosive limits	: Not applicable
Flash point	: Not applicable (not flammable)
Auto-ignition temperature	: Not applicable (not flammable)
Decomposition temperature	: 550 °C
pH	: 7 – 10 (10% aqueous dispersion at 20 °C)
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Solubility	: Water: Negligible
Partition coefficient n-octanol/water (Log Pow)	: Not applicable
Vapour pressure	: Not applicable
Density	: Not available
Relative density	: 4.5 (water=1)
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Oxidising properties : Oxidizing

9.2.2. Other safety characteristics

Relative evaporation rate (butylacetate=1) : Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

Inert, not reactive.

10.2. Chemical stability

Chemically stable.

10.3. Possibility of hazardous reactions

No hazardous reactions.

10.4. Conditions to avoid

Not relevant.

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10.5. Incompatible materials

No particular incompatibility.

10.6. Hazardous decomposition products

Not relevant.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Based on available data, the classification criteria are not met
Acute toxicity (dermal) : Based on available data, the classification criteria are not met
Acute toxicity (inhalation) : Based on available data, the classification criteria are not met

Hausmannite (1317-35-7)

LD50 oral rat	> 2000 (OECD 420 method)
LC50 Inhalation - Rat (Dust/Mist)	> 5.17 mg/l (OECD 403 method)

Skin corrosion/irritation : Based on available data, the classification criteria are not met
pH: 7 – 10 (10% aqueous dispersion at 20 °C)
Serious eye damage/irritation : Based on available data, the classification criteria are not met
pH: 7 – 10 (10% aqueous dispersion at 20 °C)
Respiratory or skin sensitisation : Based on available data, the classification criteria are not met
Germ cell mutagenicity : Based on available data, the classification criteria are not met
Carcinogenicity : Based on available data, the classification criteria are not met
Reproductive toxicity : Based on available data, the classification criteria are not met

Hausmannite (1317-35-7)

NOAEL (animal/male, F0/P)	250 mg/kg bodyweight (OECD 416 method) (rat, oral)
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STOT-single exposure : Based on available data, the classification criteria are not met
STOT-repeated exposure : Based on available data, the classification criteria are not met
Aspiration hazard : Based on available data, the classification criteria are not met

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Viscosity, kinematic	Not applicable
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11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

11.2.2 Other information

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not relevant
Hazardous to the aquatic environment, long-term (chronic) : Not relevant

12.2. Persistence and degradability

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Persistence and degradability	Not relevant.
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12.3. Bioaccumulative potential

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Partition coefficient n-octanol/water (Log Pow)	Not applicable
Bioaccumulative potential	Not relevant.

12.4. Mobility in soil

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Mobility in soil	Negligible
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12.5. Results of PBT and vPvB assessment

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Results of PBT assessment	Not relevant
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12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : Contains no substances identified as having endocrine disrupting properties

12.7. Other adverse effects

Other adverse effects : No specific adverse effects known

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Where possible recycling is preferred to disposal.
Product/Packaging disposal recommendations : Store used packaging in enclosed receptacles. Recycling and disposal of packaging should be carried out in compliance with local regulations. The re-use of packaging is not recommended. Recycling and disposal of packaging should be carried out by an authorised waste management company.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

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14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

For this mixture a chemical safety assessment has been carried out

The relevant information from exposure scenarios of the ingredients has been integrated into Section 1 –16

SECTION 16: Other information

Indication of changes:

Contact details. Composition/information on ingredients. Label elements. Occupational Exposure Limits. Toxicological information. Regulatory information.

Training advice	: Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations. Workers must be trained in the proper use and handling of this product as required under applicable regulations.
Third party materials	: Insofar as materials not manufactured or supplied by SCR-Sibelco NV are used in conjunction with, or instead of SCR-Sibelco NV materials, it is the responsibility of the customer himself to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of SCR-Sibelco NV's MANGALOX A in conjunction with materials from another supplier.
Social dialogue on respirable crystalline silica	: Prolonged and/or excessive exposure to respirable dust may cause mucous membrane and respiratory irritation and lung injury with symptoms of shortness of breath and reduced pulmonary function. Inhalation of dust may cause irritation of nose, throat and respiratory passages.

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Health & Safety Executive

: Detailed reviews of the scientific evidence on the health effects of crystalline silica have been published by HSE (Health and Safety Executive, UK) in the Hazard Assessment Documents EH75/4 (2002) and EH75/5 (2003). The HSE points out on its website that "Workers exposed to fine dust containing quartz are at risk of developing a chronic and possibly severely disabling lung disease known as "silicosis". In addition to silicosis, there is now evidence that heavy and prolonged workplace exposure to dust containing crystalline silica can lead to an increased risk of lung cancer. The evidence suggests that an increased risk of lung cancer is likely to occur only in those workers who have developed silicosis.

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
DNEL	Derived-No Effect Level
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
NOAEL	No-Observed Adverse Effect Level
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
vPvB	Very Persistent and Very Bioaccumulative
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
SDS	Safety Data Sheet
Full text of H- and EUH-statements:	
Repr. 2	Reproductive toxicity, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
EUH210	Safety data sheet available on request.

SDS EU - SB

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.