

Material Safety Data Sheet MSDS according to decree (EG) Nr. 1907/2006 (amended by decree (EU) Nr. 453/2010)

1. Description of Material / Compound and Company Information

1.1 Product Identifier

Concrete add-on to improve rheological properties
Productname: QunatumFusionPERFORMANCE

1.2 Relevant identified Applications of the Material / Compound and Applications

Relevant identified Applications:
Compound for production of concrete goods and artificial stone

1.3 Details about the Supplier providing this MSDS

Producer / Supplier

QuantumFusion GmbH

Street/PO Box

Nordstraße 11

Postal Code/City

34513 Waldeck

Telephone / Telefax / E-Mail

contact@quantumfusion.de

1.4 Emergency Telephone Nr.

Tel.: +49-6131-390– Poison Control Center of the University Johannes Gutenberg, Mainz

2. Possible Hazards

2.1 Classification of the Compound

According to decree (EG) Nr. 1272/2008

Not applicable

2.2 Labeling Elements

**Labeling Elements according to decree (EG) Nr. 1272/2008 (Materials)
Directive 1999/45/EG (Compounds)**

Not applicable

2.3 Other dangers

Results according PBT and vPVP-evaluation

Contains no PBT/vPvB substance in a concentration of $\geq 0.1\%$.

Endocrine disrupting properties

Contains no endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.

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3. Composure/Specification to Properties

3.1 Materials

Hazardous Ingredients	Classification according to Decree (EG) Nr. 1272/2008	Hazard signs
Calciumcarbonate EG-Nr.: 215-279-6 CAS-Nr.: 1317-65-3	does not contain hazardous ingredients	-

4. First Aid Measures

4.1 Description of First Aid Measures

After Inhaling

Provide for fresh air. Quickly remove dust from throat and nose area. In the event of health complaints (malaise, coughing or long-term irritation), seek medical advice.

After Skin Contact

Remove dry material and rinse with plenty of water. Remove wet material with plenty of water. Remove soaked clothing, shoes, watches etc. Launder thoroughly before reusing. In case of indisposition seek medical advice.

After Eye Contact

Do not rub the dry eye, as additional damage of the cornea is possible through mechanical stress. Rinse open eye for at least 20 minutes under running water. If possible use isotonic eye solution (0,9% NaCl). Always contact specialist or occupational physician.

After Swallowing

In case of consciousness, rinse mouth thoroughly and drink plenty of water. Do not induce vomiting if not otherwise indicated by a doctor or the Poison Center. Consult doctor or Poison Center (section 1.4).

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

Cough, shortness of breath and general breathing difficulties.

4.3 **Indications of Emergency Health Care or Special Treatment**

Symptomatic treatment (Decontamination, vital functions)

5. Fire-Fighting Measures

5.1 **Fire Suppressant**

The product is not flammable or explosive either as delivered or when treated by mixing with water. Extinguishing agents and fire-fighting measures are to be coordinated in accordance with the surrounding fire.

5.2 **Special Hazards Arising from Substance or Compound**

Hazardous decomposition products can be produced in the event of fire: Carbon monoxide (CO), carbon dioxide (CO₂)

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5.3 Advice for Fire-Fighting

No special measures are necessary.
In general:
Do not inhale explosion and combustion gases.
Adapt extinguishing measures to the environment.
Do not allow extinguishing water to enter drains and waterways.
Collect contaminated extinguishing water separately.
Fight fire with the usual precautions from an appropriate distance.

6. Measures in Case of Accidental Release

6.1 Person-related precautions, protective equipment and emergency measures:

Avoid formation of dust. Use personal protective equipment.

6.2 Environmental Precautions

Contain contaminated water/firefighting water. Do not spread compound into canalization/surface water/groundwater.

6.3 Methods and Material for Containment and Cleaning up

For small amounts: Pick up with suitable appliance and dispose of according to regulations.
For large amounts: Pick up with suitable appliance and dispose of according to regulations.
Where possible use dry methods for cleaning, which do not produce dust, e.g. use low pressure suctioning (portable appliances with highly efficient filtering systems or equivalent techniques). Never use compressed air for cleaning measures.
Avoid formation of dust. Wear appropriate protective equipment.
For wet binding agent: Pick up wet binding agent mechanically, let dry on foil pad or in container and dispose of according to section 13.

6.4 Reference to other Sections

Indications of limiting of exposure and the surveillance of the exposure/personal protective equipment as well as indications of disposition can be learned from sections 8 and 13.

7. Handling and Storage

7.1 Precautions for Safe Handling

Avoid formation of dust. Areas with dust formation have to be equipped with adequate ventilation systems. In case of inadequate ventilation wear suitable respiratory protection. Packed products have to be handled with care in order to avoid damage of packaging.
Do not eat, drink or smoke in working areas. Wash hands after use. Do not sweep. Where possible use dry methods for cleaning, which do not produce dust, such as low pressure suctioning
When refilling large amounts without suction unit, wear respiratory protection.
Do not blend with acids.
Do not expose to nature.

7.2 Conditions for Safe Storage, Including any Incompatibilities

The compound should be stored under dry, waterproof and clean conditions.
Minimize formation of dust. Avoid drift during loading operations. Keep containers closed and ensure safe storage of wrapped products.

7.3 Specific End Use

Manufacturer of the product provides indications to specific use.

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Minimization and Surveillance of Exposure/ Personal Protection Equipment

8.1 Control Parameters

Country	Working substance	CAS-Nr	Identifc ator	SMW [mg/m3]	KZW [mg/m3]	Note	Source
DE	general dust value	-	MAK	4	-	i	DFG
DE	general dust value	-	AGW	10	20	Y,i	TRGS 900
DE	general dust value	-	AGW	1,25	2,5	Y,r	TRGS 900

i- breathable fraction
 Y- there is no need to fear a risk of fruit damage if the occupational exposure limit value and the biological limit value (BGW) are complied with

8.2 Limitation and Surveillance of Exposure

For compliance with occupational exposure limit values, combinations of technical and individual protection measures may be necessary.

8.2.1 Suitable Technical Control System

Keep formation of dust low. Ensure that dust load does not exceed the limit values by isolation of processing, installation of ventilation systems or other technical measures. If user operations generate dust, vapor or mist, ensure compliance with the limit values of particle load. Take organizing measures, e.g. keep persons away from dust-polluted areas.

8.2.2 Individual Protection Measures – Personal Protection Equipment

General protective and hygienic measures: Avoid contact with skin and eyes. Avoid kneeling or standing in fresh mortar/concrete during processing. In case this is necessary, however, make sure to wear appropriate waterproof clothing. Exchange soaked clothing immediately.

Do not eat, drink or smoke during work. Wash hands or shower before interrupting or finishing work to remove adhesive dust of binding agent. Clean contaminated clothing, shoes, watches etc. before reuse.

Eye- / Face Protection

If dust is produced or there is a risk of splashing, use close fitting safety goggles as per EN 166



Skin Protection

Gloves

Use skin protection according to skin protection plan BGR 195 (The employers' and professional liability association's rules 195). Apply skin care products after work. Use abrasive resistant cotton gloves with nitrile impregnation and CE label (see information sheet BGR 195). Do not exceed maximum period of wear. Leather gloves are inappropriate due to water permeability.



Other Skin Protection

Body Protection: wear long-sleeved clothing, trousers and closed shoes. In case that contact with fresh mortar/concrete cannot be avoided, ensure that clothing is waterproof. Take care that no fresh mortar/concrete enters shoes or boots from above.



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Respiratory Protection

Wear suitable respirator mask according to EN 149. EN 140, EN 14387. EN 1827 when exceeding exposure limit value (possible e.g. at open handling or mixing of powdery product). Generally use particle filtering half-masks type FFP1 or FFP2. General information is provided by the employers' and professional liability association's rules BGR/GUV-R 190.



8.2.3 Limitation and Surveillance of Exposure to Environment

Air: Compliance with dust emission limits based on the technical instructions on air.

Water: Do not flush compound into groundwater or public water systems.

Ground: Compliance with the Federal Soil Protection.

9. Physical and Chemical Properties

9.1 Indications of Basic Physical and Chemical Properties

Appearance	Powdery inorganic compound
- Aggregate state:	solid
- Color:	white
Odor:	Odorless
pH-value :	9,5-10,5
Melting point/freezing point:	> 825 °C (start of decomposition)
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable, as material is non-combustible
Evaporation rate:	Not applicable, as no liquid
Flammability (solid gaseous):	Not applicable, as material is non-combustible
Upper/lower flammability or explosive limits:	Not applicable, as not gaseous
Vapor Pressure:	Not applicable
Vapor density:	Not applicable
Relative density:	2,70 – 2,74 g/cm ³
Solubility:	0,017g/l (20°C)
Auto ignition temperature:	Not applicable (not pyrophoric)
Decomposition temperature:	825°C
Viscosity:	Not applicable, as no liquid
Explosive properties:	Not explosive and not pyrotechnic
Oxidant properties:	Not applicable

10. Stability and Reactivity

10.1 Reactivity

Not applicable

10.2 Chemical Stability

The material is stable under normal ambient conditions and under the temperature and pressure conditions expected during storage and handling.

10.3 Possibilities of Hazardous Reactions

Violent reaction with: Strong oxidizing agent, Strong acid

10.4 Conditions to be Avoided

Moisture during storage may lead to formation of lumps and a reduction of the product`s properties.

10.5 Incompatible Materials

Not applicable

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10.6 Hazardous Decomposition Products

Hazardous combustion products: see section 5

11. Toxicological Information

11.1 Information on Toxicological Effects

Is not classified as acutely toxic

Exposition		Value	Species	Source
oral	LD50	>2000mg/kg	rat	ECHA
Inhale:dust/mist	LC50	>3mg/l per 4h	rat	ECHA
dermale	LD50	>2000mg/kg	rat	ECHA

12. Environment-related Indications

12.1 Toxicity

No data's available.

12.2 Persistence and Degradability

Not applicable, as the compound is an inorganic mineral material. Remaining compound after hydration do not pose a toxicological risk.

12.3 Bioaccumulation Potential

Not applicable, as the compound is an inorganic mineral material. Remaining compound after hydration do not pose a toxicological risk.

12.4 Mobility in Soil

No data 's available.

12.5 Results of PBT- and vPvB Assessment

Compound does not contain particles rated according to PBT and vPvB.

12.6 Other Adverse Effects

Not applicable. Do not flush compound into canalization, ground water or surface water.

13. Instructions for Disposal

13.1 Waste Treatment Methods

Within the existing possibilities recycling takes absolute priority over waste disposal. Disposal should be carried out in accordance with the local, regional or national regulations. Do not dispose compound into wastewater or surface water.

Avoid dust formation trough residues in packaging. Ensure appropriate health protection of workers. Keep contaminated packaging materials in airtight containers. Recycling and disposal of packaging material has to be carried out in accordance with the locally valid regulations. Do not re-use packaging material. A certified waste disposal company should carry out recycling and disposal of packaging material.

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14. Instructions for Transport

The compound and its raw material are not subject to the International Dangerous Goods (IMDG, IATA, ADR/RID). Thus, a dangerous goods classification is not required.

14.1 UN-Number

Not applicable

14.2 UN Proper Shipping Name

ADR/RID

Not applicable

IMDG-Code / ICAO-TI / IATA-DGR

Not applicable

14.3 Transport Hazard Class

Not applicable

14.4 Packaging Group

Not applicable

14.5 Environmental Hazard

Not applicable

14.6 Special Warnings and Precautions for User

Not applicable

14.7 Transportation in Bulk According to Annex II of MARPOL73/78 and IBC Code

Not applicable

15. Legal Provisions

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Compound
Restrictions according REACH, appendix XVII – not listed
List of substances subject to authorization (REACH, Annex XIV) / SVHC – none of used components listed
Seveso Directive – not assigned
Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) – none of used components listed
Ordinance on the Marketing and Use of Explosives Precursors – none of used components listed
Ordinance on drug precursors – none of used components listed
Ordinance on Substances that Deplete the Ozone Layer (ODS) – none of the used components listed
Ordinance on the Export and Import of Dangerous Chemicals (PIC) – none of the used components listed
Ordinance on Persistent Organic Pollutants (POPs) – none of the used components listed
National regulations (Germany) Ordinance on Installations for Handling Substances Hazardous to Water (AwSV) - Water hazard class (WGK) – not hazardous to water
Storage of hazardous substances in portable containers (TRGS 510) (Germany) - Storage class (LGK) 13
Other information
Observe employment restrictions for young people according to § 22 JArbSchG. Observe employment restrictions for mothers according to § 11 MuSchG!

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15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out by the supplier for this mixture.

16. Other Information

Abbreviations:	
2017/164/EU	Commission Directive establishing a fourth list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
AGW	Workplace limit value
CAS	Chemical Abstracts Service
CLP	Classification, labeling and packaging (Regulation (EG) Nr. 1272/2008)
DFG	German Research Foundation List of MAK and BAT values, Senate Commission for the Examination of Health Hazardous Substances, Wiley-VCH, Weinheim
DGR	Dangerous Goods Regulations Regulations for the transportation of dangerous goods, see IATA/DGR
DNEL	Derived No-Effect Level (derived exposure level without impairment)
EC50	Half maximal effective concentration (median effective concentration)
EG-Nr.	The EC Inventory (EINECS, ELINCS and the NLP Inventory) is the source for the seven-digit EC-number for substances in the EU (European Union)
EINECS	European Inventory of Existing Commercial chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, the concentration of the test substance that leads to a 50 % decrease in either growth (EbC50) or growth rate (ErC50) compared to the control
Eye Dam.	Seriously damaging to the eyes
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International agreement on the Maritime transport of Dangerous Goods
Index Nr.	The index number is the identification code given in Part 3 of Annex VI to Regulation (EC) No 1272/2008.
IOELV	Workplace guide limit value
KZW	Short-term value
LC50	Median lethal dose (median lethal dose)
LGK	Storage class according to TRGS 510, Germany
LOED	Lowest Observed Effect Concentration
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, bio-accumulative and toxic (persistent, bio accumulative, toxic)
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation and Authorization of Chemicals (Regulation (EG) 1907/2006)
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International Carriage of Dangerous Goods by Rail)
Skin Corr.	Skin corrosive
Skin Irrit.	Irritating to skin
SMW	Shift average
STOT	Specific target organ toxicity (specific target organ toxicity)
SVHC	Substance of Very High Concern
TRGS	Technical Rules for Hazardous Goods
TRGS900	Occupational exposure limits (TRGS 900)
vPvB	Very persistent, very bio accumulative

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Literature References and Sources for Data

Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures.

Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail or inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA) (regulations for the transportation of dangerous goods by air).

Professional Training for Employees

Additional to training programs for employees, e.g. on the subject of health, security, and environment, the employer has to ensure that his/her employees read and understand this MSDS and adhere to the requirements stated herein.

Further Information

The data mentioned in the present safety data sheet correspond to our latest knowledge and experience and may be used to precise safety requirements for the different products. However, they are no assurance of product properties and products made from this compound.

Existing laws, decrees and regulations, also those that are not specified in this MSDS must be observed by the recipient of our products on his own responsibility.