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MATERIAL SAFETY DATA SHEET

WELLSEAL™

PRODUCT AND COMPANY INFORMATION – SECTION 1

Product Name	:	WELLSEAL
Synonyms	:	Synthetic Graphite
Intended Use	:	Plug and Bridging Agent (LCM) in highly permeable formations.
Produced for	:	KAREVA Marketing GmbH (a REMY-Group Company)
Supplier	:	KAREVA Marketing GmbH Pappelallee 28 | 22089 Hamburg | Germany Phone: +49-40-369001-0 | e-mail: kareva@remy-group.com

COMPOSITION INFORMATION SECTION – SECTION 2

Chemical Name	**:**	Synthetic Graphite
Percent	**:**	C 99,6 % min.
Chemical Name	**:**	Carbon

HAZARDS IDENTIFICATION – SECTION 3

EMERGENCY OVERVIEW AND HAZARDS PRESENT TO MAN AND THE ENVIRONMENT:

May be harmful if inhaled. May cause irritation to skin, eyes, and respiratory tract. Affects respiratory and Cardiovascular systems by prolonged exposure via inhalation.

REGULATORY STATUS:

This material is classified as hazardous under OSHA regulations.

PRIMARY ROUTES OF EXPOSURE:

In dust form, inhalation is the primary route of exposure.

POTENTIAL HEALTH EFFECTS:

Eyes..... In dust form, may be abrasive and irritating to eye tissue. May lead to redness and swelling of the conjunctiva.

Skin.....Prolonged or excessive skin contact may cause mild skin irritation. May irritate existing *allergic and existing hypersensitive conditions.*

Inhalation......If exposure limits are exceeded, the respiratory tract may become irritated. May cause Shortness of breath, coughing and/or chest *tightness due to temporary physical Over-loading of the lungs.*

Ingestion.....May cause gastrointestinal disturbances.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Persons with pre-existing respiratory impairment including, Emphysema, and asthma.

CHRONIC HEALTH EFFECTS:

Eyes..... In dust form, may be abrasive and irritating to the eyes through mechanical abrasion.

Skin..... In dust form, may be abrasive and irritating to the skin through mechanical abrasion.

Inhalation..... Prolonged or repeated inhalation of dust may cause pulmonary fibrosis or emphysema. Possible lung cancer hazard.

Ingestion..... May cause nausea, vomiting, and diarrhoea.

FIRST AID MEASURES – SECTION 4

SEEK MEDICAL ATTENTION FOR ALL CASES OF OVEREXPOSURE.

FIRST AID MEASURES:

Eyes..... Flush thoroughly with water, taking special care to rinse under the eyelids. Do not rub the eye as mechanical abrasion due to the dust may be damaging to the cornea. If irritation persists, continue flushing for fifteen (15) minutes. If discomfort persists, seek consultation from a physician.

Skin..... Remove contaminated clothing. Wash irritated area thoroughly with water. Do not rub as mechanical abrasion due to the dust may prolong irritation to the skin.

Inhalation..... If overcome by dust concentrations, remove to a more ventilated area (fresh air).

Ingestion..... Do not induce vomiting. Seek consultation from a physician.

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Instructions for Physician..None recommended.

FIRE FIGHTING MEASURES – SECTION 5

Flammable Properties.....At sufficient concentrations dusts can form explosive mixtures with air

Hazardous Combustion products*.....Carbon Monoxide, Carbon Dioxide, Various Hydrocarbon Fragments*

Extinguishing Media*.....Dry Chemical, CO_2, Regular Foam.*

Protection of Fire fighters*.....Wear full PPE including self contained breathing Apparatus*

FLAMMABILITY PROPERTIES

Flash Point..... N/A **Method.....** N/A

Flammability Limits..... (in air % by volume)

LEL..... N/A

UEL..... N/A

ACCIDENTAL RELEASE MEASURES – SECTION 6

Environmental Precautions:

Spill and releases of this material to navigable water in sufficient amounts that cause sludge or emulsion under the water must be reported immediately to the National Response Centre (800/424-8802),as required by U.S. Federal Law. Contact the Coast Guard and appropriate state and local regulatory agencies. Failure to report these spills may result in substantial civil and criminal penalties.

Cleanup Methods:

Small spills: should be vacuumed when possible. Dry sweeping is not recommended. A vacuum equipped with HEPA (high efficiency particulate air) filtration is recommended. If necessary**,** light water spray will reduce dust for dry sweeping.
Large spills: may be disposed into containers. Wear appropriate personal protective equipment and respiratory protection.

HANDLING & STORAGE – SECTION 7

Handling:

Avoid handling that will unnecessarily generate airborne dust. Graphite is a good conductor of electricity. Exercise caution when handling in areas where contact with electrical circuitry is possible. Keep containers tightly closed in a dry cool well ventilated place.

Storage:

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Specific Uses: Users should avoid inhalation of dust.

EXPOSURE CONTROLS / PERSONAL PROTECTION – SECTION 8

EXPOSURE CONTROLS:

Exposure Limit Values:	**OSHA PEL:**	**ACGIH TLV:**
Synthetic Graphite	10 mg/m^3 (Total dust) 5 mg/m^3 (Respiratory fraction)	2 mg/m^3 (for all forms of graphite except graphite fibres)

Engineering Controls:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory Protection:

If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection may be needed for non routine or emergency situations. When handling small concentrations wear an approved particulate respirator. Ensure that adequate ventilation is available when working with this product

Hand Protection:

Appropriate chemical protective gloves should be used while handling this material.

Eye/Face Protection:

Avoid at all times eye contact with this material. Wear safety glasses or chemical goggles. Provide an eyewash station in the work area. Do not wear contact lenses when working with this substance.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

General Hygiene Considerations:

Practice good industrial hygiene by washing with soap and water after each use.

PHYSICAL & CHEMICAL PROPERTIES – SECTION 9

PRODUCT: Synthetic Graphite

General Information:

Appearance Grey to black angular shaped solid, may be in the form of a dust

Odour - Odourless

Important Health, Safety, and Environmental Information:

Boiling Point..... N/A

Melting.....> 5000^{o} F

Flash Point.....N/A

Explosive Properties.....N/A

Oxidizing Properties..... N/A

Specific Gravity *(H_2O = 1)*.....1.75 g/cc

Water Solubility..... Insoluble

Partition Coefficient..... Not Determined *(n-octanol/water)*

Viscosity..... N/A

Vapour Pressure *(mm Hg)*.....N/A

Vapour Density *(Air = 1)*.....N/A

Evaporation Rate..... N/A

% Volatile *(By Volume @ 68 °F)*.....Zero

Decomposition Temp.....> 482^{o}F

Bulk Density.....> 450kg/m^{3}

STABILITY & REACTIVITY – SECTION 10

Stability..... This material is stable under normal conditions.

Conditions to Avoid..... Incompatibilities with strong oxidizers. This condition is aggravated when the material is heated.

Materials to Avoid..... Graphite reacts vigorously with liquid potassium, potassium peroxide and will ignite with chlorine tri-fluoride and fluorine. If graphite contacts liquid potassium, rubidium, or caesium at 300^{o}C, intercalation compounds may be formed. These compounds may explode on contact with water or ignite in air.

Hazardous Decomposition Products.. Carbon Monoxide, Carbon dioxide.

TOXICOLOGICAL INFORMATION – SECTION 11

Chronic effects..... Prolonged or repeated exposure may cause lung injury

ECOLOGICAL INFORMATION – SECTION 12

Eco-toxicity:

No effects are expected from this material due its insolubility. Insolubility leads to non-bioavailability.

Mobility:

N/A

Persistence and Degradability:

N/A

Bio-accumulative Potential:

N/A

DISPOSAL CONSIDERATION – SECTION 13

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system.

TRANSPORT INFORMATION – SECTION 14

DOT CLASSIFICATION:
UN Number**:** This material is not regulated by the DOT for transportation
Class:
Proper Shipping Name**: WELLSEAL™**
Other Information: **25 kilo 3-layer paper bag | 40 bags per pellet = 1 MT**
IATA CLASSIFICATION:
UN Number**:** This material is not regulated by IATA for transportation

OTHER INFORMATION – SECTION 15

HMIS ratings..... Health: 1
Flammability: 0
Physical hazard: 0
Personal protection: E

NFPA ratings.....Health: 0
Flammability: 0
Instability: 0

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