



SAFETY DATA SHEET SUN ResiFlex™

1. Identification

Product Name:	Sun ResiFlex™	
Effective Date:	January 20, 2016	
Chemical Family:	Drilling Fluid Additive	
Usage:	Fluid loss reduction additive	
Manufacturer	Sun Drilling Products Corp. 503 Main Street Belle Chasse, LA 70037 (504)393-2778	
Emergency phone number	CHEMTREC USA/Canada	1-800-424-9300
	Outside USA/Canada	1-703-527-3887
Hazard(s) identification	Nuisance Dust	
Physical hazards	No known significant effects or critical hazards.	
Health hazards	No known significant effects or critical hazards.	
Environmental hazards	No known significant effects or critical hazards.	
OSHA defined hazards	Not classified.	
Label elements		
Signal word	No signal word.	
HAZARD CLASS:	No Hazard Class.	
HAZARD STATEMENT:	H373: May cause damage to lungs through prolonged or repeated inhalation.	
PRECAUTIONARY STATEMENTS:	P260: Do not breathe dust. P285: In case of inadequate ventilation wear respiratory protection. P264: Wash hands thoroughly after handling to reduce chance of product transfer to eyes.	
	Eye contact may cause mild eye irritation and reddening. Prolonged and repeated exposure to excessive concentrations of this product's dust, or any nuisance dust, can cause chronic pulmonary disease. Risk of injury is dependent on the duration and level of exposure. A single exposure under normal conditions of use will not result in serious adverse effects.	
Prevention	Prevent overexposure by inhalation.	
Response	If exposed or concerned: Get medical advice/attention.	
Storage	Store in dry location.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	None.	



2. Composition/information on ingredients

Chemical name	CAS#	OSHA PEL
Synthetic Graphite	7440-44-0	15 mg/m ³ Total dust (PNOC)* 5 mg/m ³ Respirable dust (PNOC)*

- PNOC Particulates Not Otherwise Classified; Inert or Nuisance Dust

The criteria for listing components in the composition are as follows: Carcinogens are listed when present at 0.1% or greater; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or greater, by weight or volume. Non-hazardous components may be listed at 3.0% or greater if not proprietary in nature. This is not intended to be complete compositional disclosure. Refer to section 14 for applicable States' Right-to-Know and other regulatory information.

3. First-aid measures

Most important symptoms/effects, acute and delayed

Dust may irritate the respiratory tract, skin and eyes.

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	No effects expected. Wash off with soap and water. Seek medical attention if irritation develops and persists.
Eye contact	Do not rub eyes. Rinse with water. Seek medical attention if irritation develops and persists.
Ingestion	No effects expected. Rinse mouth. Do not induce vomiting. Get medical attention if symptoms occur.
General information	If exposed or concerned: Seek medical advice/attention. Ensure that medical personnel are aware of the material(s) involved.

4. Firefighting measures

Suitable extinguishing media	Water, water fog, chemical or carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, carbon dioxide and carbon monoxide may be released.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in the event of fire.
Firefighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. Normal care should be taken to avoid dust explosion risk caused by high concentrations of dust or finely-suspended airborne particles, although graphite dust is not generally considered an explosion hazard.



5. Accidental release measures

Personal precautions, equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust at levels exceeding the exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 7 of the SDS.

Methods and materials for containment and cleaning up

Stop the flow of material, if this is without risk. Collect dust using a vacuum cleaner equipped with HEPA filter. Take precautions to prevent dust accumulation on surfaces, as this may create an explosion risk. Avoid all sources of ignition when handling dust. Non-sparking tools should be used when working with dust.

Environmental precautions

Avoid discharge of product into drains, water courses or onto the ground.

6. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation for operations/locations where dust is formed. Do not breathe dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in secure location. Store in a well-ventilated place. Store away from incompatible materials (see Section 9 of the SDS).

7. Exposure controls/personal protection

Occupational exposure limits

ACGIH TLV: Synthetic Graphite: 2 mg/m³ TWA (Respirable Dust)

Biological limit values Exposure guidelines

No biological exposure limits noted for the ingredient(s). Occupational exposure to nuisance dust (total and respirable) should be monitored and controlled.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.



Individual protection measures, such as personal protective equipment

- Eye** Safety glasses or protective goggles to prevent eye contact.
- Skin protection**
- Hand protection** Wear appropriate gloves if contact results in mechanical irritation. Suitable gloves can be recommended by the glove supplier.
- Respiratory protection** Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust at levels exceeding the exposure limits.

General hygiene considerations Observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

8. Physical and chemical properties

Appearance

- Physical state** Solid
- Form** Fine powder
- Color** Gray

Odor No appreciable odor

Odor threshold ND

pH NA

Melting point/freezing point Melting point 2011°C; Sublimation temperature: 3650 °C (6602°F)

Initial boiling point and boiling range 2315 °C

Flash point >200 °F

Evaporation rate NA

Upper/lower flammability or explosive limits ND

Explosive limit – lower (%) ND

Explosive limit – upper (%) ND

Volatiles (by weight) NA

Vapor pressure NA

Vapor Density NA

Relative Density NA

Solubility (water) Insoluble

Partition Coefficient (n-octanol/water) Not available

Auto-Ignition temperature NA

Decomposition temperature NA



Viscosity NA

Other Information

Density ND

Specific gravity 1.4-2

9. Stability and Reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical Stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Oxidizing materials.

Hazardous decomposition products Combustion may produce carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

10. Toxicological information

Information on likely routes of exposure

Symptoms related to the physical, chemical and toxicological characteristics

Dust may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute oral toxicity ND

Irritant effect on skin ND

Irritant effect on eyes ND

Respiratory or Skin Sensitization Not expected to be a respiratory sensitizer or to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects

Specific organ toxicity - Single exposure Not classified.

Specific organ toxicity - Repeated exposure Not classified.



Aspiration hazard Not an aspiration hazard.

Chronic effects and may result in Prolonged overexposure to nuisance dust through inhalation may be harmful, coughing, dyspnea, black sputum, pneumoconiosis, and impaired pulmonary function.

11. Ecological information

Ecotoxicity To our knowledge there is no reliable data regarding its bioaccumulation or mobility in the environment, nor is there reasonable data to suggest that it should be considered an environmental hazard.

Persistence and degradability No data is available on the degradability of this product.

Bio accumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose of in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues Dispose of in accordance with local regulations. Empty containers or liners may retain some product residue. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

13. Transport information

DOT Not regulated as dangerous goods.

IATA Not regulated as dangerous goods.

IMDG Not regulated as dangerous goods.

14. Regulatory information

US federal regulations This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 8(a) CDR Exempt/Partial Exemption: All components are listed or exempted.

CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.

SARA 304 Emergency release notification Not regulated.



OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting) Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

Present on State Right to Know Lists (RTK) for New Jersey, Pennsylvania, Minnesota, Massachusetts

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

US. California Proposition 65

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Are listed or exempted on the following:

Australia	Australian Inventory of Chemical Substances (AICS)
Canada	Domestic Substances List (DSL)
China	Inventory of Existing Chemical Substances in China (IECSC)
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)
Europe	European List of Notified Chemical Substances (ELINCS)
Japan	Inventory of Existing and New Chemical Substances (ENCS) – not determined.
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory



15. Other information, including date of preparation or last revision

Issue date 1/20/2016 **Version #** 01

Disclaimer

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