

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

**1.1. Product identifier**

**Trade name or designation of the mixture** C34™ Cement Powder Component  
**Registration number** -  
**Synonyms** None.  
**SDS number** 4303  
**Issue date** 03-May-2016  
**Version number** 02  
**Revision date** 24-May-2017  
**Supersedes date** 03-May-2016

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

**Identified uses** Bonding of Carbon and Graphite.  
**Uses advised against** None known.

**1.3. Details of the supplier of the safety data sheet**

**Supplier** GrafTech France S.N.C  
Rue des Garennes  
CS 10478  
F-62226 CALAIS cedex  
+33-3-2119-1420  
**Manufacturer** GrafTech International Holdings Inc. or affiliate  
982 Keynote Circle  
Brooklyn Heights, Ohio 44131  
+1 216-676-2555  
**Contact person** Product Responsibility Manager +1-216-676-2304  
**E-mail** sds@graftech.com

**1.4. Emergency telephone number** For Chemical Emergency ONLY, call CHEMTREC at:  
+(44)-870-8200418 or +1-703-527-3887

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended**

**Health hazards**  
Skin sensitisation Category 1 H317 - May cause an allergic skin reaction.

**Hazard summary** May form explosible dust-air mixture if dispersed. Exposure to powder or dusts may be irritating to eyes, nose and throat. May cause an allergic skin reaction. Prolonged exposure may cause chronic effects. Occupational exposure to the substance or mixture may cause adverse health effects.

**2.2. Label elements**

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Contains:** Carbon black, Distillates (petroleum), hydrotreated light naphthenic, Graphite, Methenamine, Phenolic resin

**Hazard pictograms**



**Signal word** Warning

**Hazard statements**  
H317 May cause an allergic skin reaction.

## Precautionary statements

### Prevention

P261	Avoid breathing dust.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves.

### Response

P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

### Storage

P405	Store locked up.
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### Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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**Supplemental label information** None.

**2.3. Other hazards** Not a PBT or vPvB substance or mixture. May form explosible dust-air mixture if dispersed.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Graphite	< 60	7782-42-5 231-955-3	01-2119486977-12-XXXX	-	
<b>Classification:</b>	-				
Carbon black	< 25	1333-86-4 215-609-9	-	-	
<b>Classification:</b>	-				
Phenolic resin	< 20	9003-35-4 500-005-2	-	-	
<b>Classification:</b>	-				
Distillates (petroleum), hydrotreated light naphthenic	< 3	64742-53-6 265-156-6	-	649-466-00-2	
<b>Classification:</b>	Acute Tox. 4;H332				
Methenamine	< 2	100-97-0 202-905-8	-	612-101-00-2	
<b>Classification:</b>	Flam. Sol. 2;H228, Skin Sens. 1;H317, Eye Irrit. 2;H319				

#### List of abbreviations and symbols that may be used above

- #: This substance has been assigned Union workplace exposure limit(s).
- M: M-factor
- PBT: persistent, bioaccumulative and toxic substance.
- vPvB: very persistent and very bioaccumulative substance.

**Composition comments** The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 4.1. Description of first aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
<b>Eye contact</b>	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.

**4.2. Most important symptoms and effects, both acute and delayed** Dusts may irritate the respiratory tract, skin and eyes. Coughing. May cause an allergic skin reaction. Dermatitis. Rash.

**4.3. Indication of any immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

**General fire hazards** May form explosible dust-air mixture if dispersed. May form combustible dust concentrations in air.

### 5.1. Extinguishing media

#### Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard.

### 5.3. Advice for firefighters

#### Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

#### Special fire fighting procedures

In case of fire and/or explosion do not breathe fumes.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

#### For emergency responders

Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

### 6.2. Environmental precautions

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

### 6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimise dust generation and accumulation. Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use.

### 6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Minimise dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

### 7.3. Specific end use(s)

Bonding of Carbon and Graphite.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Carbon black (CAS 1333-86-4)	STEL	7 mg/m <sup>3</sup>
	TWA	3.5 mg/m <sup>3</sup>

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)**

**General Population**

Components	Value	Assessment factor	Notes
Graphite (CAS 7782-42-5)			
Long-term, Local, Inhalation	0.3 mg/m <sup>3</sup>	10	
Long-term, Systemic, Oral	813 mg/kg	1	

**Workers**

Components	Value	Assessment factor	Notes
Graphite (CAS 7782-42-5)			
Long-term, Local, Inhalation	1.2 mg/m <sup>3</sup>	5	

**Predicted no effect concentrations (PNECs)** Not available.

**8.2. Exposure controls**

**Appropriate engineering controls** Explosion-proof general and local exhaust ventilation. 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 OEL (occupational exposure limit), suitable respiratory protection must be worn. Provide explosion-proof ventilation for high dust concentrations.

**Individual protection measures, such as personal protective equipment**

**General information** Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin protection**

- **Hand protection** Wear appropriate chemical resistant gloves.

- **Other** Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

**Respiratory protection** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**Hygiene measures** When using, do not eat, drink or smoke. Always 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. Contaminated work clothing should not be allowed out of the workplace.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

<b>Appearance</b>	Black powder.
<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Colour</b>	Black.
<b>Odour</b>	Phenol.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	No data available.
<b>Initial boiling point and boiling range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Dust may form explosive mixture with air.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not applicable.

<b>Flammability limit - upper (%)</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1
<b>Solubility(ies)</b>	0.1 - 1 Slightly soluble.
<b>Partition coefficient (n-octanol/water)</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	No data available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Dust may form explosive mixture with air.
<b>Oxidising properties</b>	Not oxidising.
<b>9.2. Other information</b>	
<b>Bulk density</b>	Not applicable.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimise dust generation and accumulation.
<b>10.5. Incompatible materials</b>	Strong oxidising agents. Chlorine.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin. May cause an allergic skin reaction.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Dusts may irritate the respiratory tract, skin and eyes. Coughing. May cause an allergic skin reaction. Dermatitis. Rash.

### 11.1. Information on toxicological effects

#### Acute toxicity

Components	Species	Test results
Carbon black (CAS 1333-86-4)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	> 3000 mg/kg
<b>Oral</b>		
LD50	Rat	> 8000 mg/kg
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)		
<b>Acute</b>		
<b>Inhalation</b>		
LD50	Rat	2.81 mg/l
Graphite (CAS 7782-42-5)		
<b>Acute</b>		
<b>Oral</b>		
LD50	Rat	> 10000 mg/kg
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	

<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitisation</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Risk of cancer cannot be excluded with prolonged exposure.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon black (CAS 1333-86-4)	2B Possibly carcinogenic to humans.
Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)	3 Not classifiable as to carcinogenicity to humans.

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test results
Carbon black (CAS 1333-86-4)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50 Leuciscus idus	>= 1000 mg/l, 96 Hours
Methenamine (CAS 100-97-0)		
<b>Aquatic</b>		
Crustacea	EC50 Water flea (Daphnia magna)	29868 - 43390 mg/l, 48 hours
Fish	LC50 Bleak (Alburnus alburnus)	> 10000 mg/l, 96 hours

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

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient n-octanol/water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** The product is slightly soluble in water.

**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.

**12.6. 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.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	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.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	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.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

**14.7. Transport in bulk** Not applicable.  
**according to Annex II of Marpol**  
**and the IBC Code**

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Methenamine (CAS 100-97-0)

Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Distillates (petroleum), hydrotreated light naphthenic (CAS 64742-53-6)

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### Other regulations

This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

#### National regulations

Follow national regulation for work with chemical agents.

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

**List of abbreviations** Not available.

**References** Not available.

**Information on evaluation method leading to the classification of mixture**

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

**Full text of any H-statements not written out in full under Sections 2 to 15**

H228 Flammable solid.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.

**Training information**

Follow training instructions when handling this material.

**Disclaimer**

GRAFTECH INTERNATIONAL HOLDINGS INC. ADVISES THE USERS OF THIS PRODUCT TO STUDY THIS SAFETY DATA SHEET (SDS) AND BECOME AWARE OF PRODUCT HAZARDS AND SAFETY INFORMATION. TO PROMOTE SAFE USE OF THIS PRODUCT, USERS SHOULD NOTIFY THEIR EMPLOYEES, AGENTS AND CONTRACTORS OF THE INFORMATION ON THIS SDS AND ANY PRODUCT HAZARDS AND SAFETY INFORMATION.

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.