



**SAFETY DATA SHEET**  
BLACKFAST 181 CHEMICAL BLACKING SOLUTION

**Page:** 1  
**Compilation date:** 10/01/2012  
**Revision date:** 05/01/2020  
**Revision No:** 19

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

**1.1. Product identifier**

**Product name:** BLACKFAST 181 CHEMICAL BLACKING SOLUTION  
**Product code:** 181

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

**Use of substance / mixture:** In use this product should be diluted to 25% with water. PC14: Metal surface treatment products, including galvanic and electroplating products. PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC13: Treatment of articles by dipping and pouring PROC19: Hand-mixing with intimate contact and only PPE available USES ADVISED AGAINST: PROC7: Industrial spraying PROC11: Non industrial spraying

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

**Company name:** Blackfast Chemicals Ltd.  
Unit 5 Russell House  
Molesey Road  
Walton-on-Thames  
Surrey  
KT12 3PE  
UK  
**Tel:** +44 (0)208 339 7370  
**Fax:** +44 (0)208 339 7371  
**Email:** sales@blackfast.com

**1.4. Emergency telephone number**

**Emergency tel:** +44(0)1865 407333

**Section 2: Hazards identification**

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

**Classification under CLP:** Acute Tox. 4: H302; Aquatic Chronic 2: H411; Carc. 1Ai: H350i; Muta. 2: H341; Repr. 1B: H360D; Resp. Sens. 1: H334; Skin Sens. 1: H317; STOT RE 1: H372; Met. Corr. 1: H290; Skin Corr. 1B: H314; -: EUH208

**Most important adverse effects:** Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May be corrosive to metals. Suspected of causing genetic defects (Perinatal

[cont...]

# SAFETY DATA SHEET

## BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 2

lethality. Route of exposure: inhalation of dust, mist and aerosol). May cause cancer by inhalation. May damage the unborn child. Causes damage to organs (Respiratory tract only) through prolonged or repeated exposure (via inhalation of dust, mist or aerosol). Toxic to aquatic life with long lasting effects. Contains Nickel Sulphate. May produce an allergic reaction.

### 2.2. Label elements

#### Label elements:

**Hazard statements:** H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H290: May be corrosive to metals.  
H341: Suspected of causing genetic defects (Perinatal lethality. Route of exposure: inhalation of dust, mist and aerosol).  
H350i: May cause cancer by inhalation.  
H360D: May damage the unborn child.  
H372: Causes damage to organs (Respiratory tract only) through prolonged or repeated exposure (via inhalation of dust, mist or aerosol).  
H411: Toxic to aquatic life with long lasting effects.  
EUH208: Contains Nickel Sulphate. May produce an allergic reaction.

**Hazard pictograms:** GHS05: Corrosion  
GHS07: Exclamation mark  
GHS08: Health hazard  
GHS09: Environmental



**Signal words:** Danger

**Precautionary statements:** P201: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.  
P260: Do not breathe dust/mist/spray.  
P264: Wash hands thoroughly after handling.  
P272: Contaminated work clothing should not be allowed out of the workplace.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.  
P302+P352: IF ON SKIN: Wash with plenty of water.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

[cont...]

# SAFETY DATA SHEET

## BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 3

P308+P313: IF exposed or concerned: Get medical advice/attention.

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

P363: Wash contaminated clothing before reuse.

### 2.3. Other hazards

**PBT:** This product is not identified as a PBT/vPvB substance.

## Section 3: Composition/information on ingredients

### 3.2. Mixtures

NICKEL SULPHATE - REACH registered number(s): 01-2119439361-44-XXXX

232-104-9	7786-81-4	-	Muta. 2: H341; Repr. 1B: H360D; STOT RE 1: H372; Acute Tox. 4: H332; Skin Irrit. 2: H315; Resp. Sens. 1: H334; Skin Sens. 1: H317; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Carc. 1A: H350; Carc. 1Ai: H350i; Acute Tox. 4: H302	<5%
-----------	-----------	---	---	-----

COPPER SULPHATE - REACH registered number(s): 01-2119520556-40-XXXX

231-847-6	7758-98-7	-	Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	<5%
-----------	-----------	---	---	-----

ORTHOPHOSPHORIC ACID - REACH registered number(s): 01-2119485924-24-XXXX

231-633-2	7664-38-2	-	Skin Corr. 1B: H314	<5%
-----------	-----------	---	---------------------	-----

SELENIUM DIOXIDE - REACH registered number(s): 01-2120089867-33-XXXX

231-194-7	7446-08-4	-	Acute Tox. 3: H301+H331; STOT RE 2: H373; Aquatic Acute 1: H400; Aquatic Chronic 1: H410	<5%
-----------	-----------	---	--	-----

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Transfer to hospital as soon as possible.

**Inhalation:** Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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

**Skin contact:** There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 4

**Eye contact:** Corneal burns may occur. May cause permanent damage.

**Ingestion:** There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Nausea and stomach pain may occur. There may be vomiting.

**Inhalation:** Absorption through the lungs can occur causing symptoms similar to those of ingestion.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

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

**Immediate / special treatment:** Eye bathing equipment should be available on the premises. Show this safety data sheet to the doctor in attendance.

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

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

**Exposure hazards:** In combustion emits toxic fumes.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

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

**Personal precautions:** Refer to section 8 of SDS for personal protection details. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.

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

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

### 6.4. Reference to other sections

**Reference to other sections:** Refer to section 8 of SDS.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid the formation or spread of mists in the air. Avoid direct contact with the substance.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 5

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

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed.

**Suitable packaging:** Polyethylene. Do not use steel containers. Do not use aluminium containers.

## 7.3. Specific end use(s)

**Specific end use(s):** PC14: Metal surface treatment products, including galvanic and electroplating products.

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Hazardous ingredients:**

#### COPPER SULPHATE

**Workplace exposure limits:**

**Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	-	2mg/m3	0.2mg/m3	-

#### ORTHOPHOSPHORIC ACID...100%

UK	1	2	-	-
----	---	---	---	---

#### SELENIUM DIOXIDE

UK	0.1mg/m3	-	-	-
----	----------	---	---	---

### DNEL/PNEC Values

**Hazardous ingredients:**

#### NICKEL SULPHATE

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	0.05mg/m3	Workers	Systemic
DNEL	Inhalation	0.05mg/m3	Workers	Local
DNEL	Dermal	0.00044mg/cm2	Workers	Local
DNEL	Inhalation	20ng/m3	General Population	Systemic
DNEL	Inhalation	20ng/m3	General Population	Local
DNEL	Oral	0.022mg/kg	General Population	Systemic

#### ORTHOPHOSPHORIC ACID...100%

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	1mg/m3	-	Local

### 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency.

**Hand protection:** 0,5 mm Rubber gloves. Butyl gloves. PVC gloves. 0,35 mm Nitrile gloves. Breakthrough time of the glove material > 8 hours.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 6

**Eye protection:** Tightly fitting safety goggles. Ensure eye bath is to hand.

**Skin protection:** Apron. Boots.

**Environmental:** Prevent from entering in public sewers or the immediate environment.

## Section 9: Physical and chemical properties

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

**State:** Liquid

**Colour:** Blue

**Odour:** Perceptible odour

**Evaporation rate:** Negligible

**Oxidising:** Non-oxidising (by EC criteria)

**Solubility in water:** Miscible in all proportions

**Viscosity:** Non-viscous

**Boiling point/range°C:** 100

**Melting point/range°C:** No data available.

**Flammability limits %: lower:** No data available.

**upper:** No data available.

**Flash point°C:** >93

**Part.coeff. n-octanol/water:** No data available.

**Autoflammability°C:** No data available.

**Vapour pressure:** No data available.

**Relative density:** 1.16

**pH:** 3-3.5

**VOC g/l:** Not applicable.

### 9.2. Other information

**Other information:** No data available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions.

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.  
Decomposition may occur on exposure to conditions or materials listed below.

### 10.4. Conditions to avoid

**Conditions to avoid:** Heat.

### 10.5. Incompatible materials

**Materials to avoid:** Strong oxidising agents. Strong acids.

### 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 7

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Hazardous ingredients:

##### NICKEL SULPHATE

ORAL	RAT	LD50	264	mg/kg
------	-----	------	-----	-------

##### COPPER SULPHATE

ORAL	HMN	LDLO	11	mg/kg
ORAL	RAT	LD50	482	mg/kg

##### ORTHOPHOSPHORIC ACID...100%

DERMAL	RBT	LD50	2470	mg/kg
ORL	RAT	LD50	1530	mg/kg

##### SELENIUM DIOXIDE

ORAL	RAT	LD50	68.1	mg/kg
------	-----	------	------	-------

#### Relevant hazards for product:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	ING	Hazardous: calculated
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated
Respiratory/skin sensitisation	INH DRM	Hazardous: calculated
Germ cell mutagenicity	--	Hazardous: calculated
Carcinogenicity	--	Hazardous: calculated
Reproductive toxicity	--	Hazardous: calculated
STOT-repeated exposure	-	Hazardous: calculated

### Symptoms / routes of exposure

**Skin contact:** There may be irritation and redness at the site of contact. An itchy rash may occur at the site of contact.

**Eye contact:** Corneal burns may occur. May cause permanent damage.

**Ingestion:** There may be soreness and redness of the mouth and throat. There may be difficulty swallowing. Nausea and stomach pain may occur. There may be vomiting.

**Inhalation:** Absorption through the lungs can occur causing symptoms similar to those of ingestion.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 8

## Section 12: Ecological information

### 12.1. Toxicity

**Hazardous ingredients:**

#### NICKEL SULPHATE

ALGAE	72H ErC50	6.03	mg/l
ALGAE	96H LC50	18.4	mg/l
DAPHNIA	48H EC50	2.72	mg/l
FISH	96H LC50	14.7	mg/l

#### COPPER SULPHATE

ALGAE	48H EC50	0.1	mg/l
Daphnia magna	48H EC50	2.44	mg/l
Daphnia magna	96H LC50	0.1	mg/l
FISH	96H LC50	810	µg/l

#### SELENIUM DIOXIDE

ALGAE	72H ErC50	0.9	mg/l
DAPHNIA	48H EC50	4.8	mg/l
FISH	96H LC50	7.46	mg/l

### 12.2. Persistence and degradability

**Persistence and degradability:** Biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** No bioaccumulation potential.

### 12.4. Mobility in soil

**Mobility:** Readily absorbed into soil.

### 12.5. Results of PBT and vPvB assessment

**Persistence (P-):**

**Persistence result:** not P-

**Bioaccumulation (B-):**

**Bioaccumulation result:** not B-

**Toxicity (T-):**

mg/l

**NOEC for marine or freshwater organisms:** <0.1

**Toxicity result:** not T-

**PBT identification:** This product is not identified as a PBT/vPvB substance.

[cont...]



# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 9

## 12.6. Other adverse effects

**Other adverse effects:** Toxic to aquatic organisms.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Transfer to a suitable container and arrange for collection by specialised disposal company.

**Waste code number:** 11 01 98

**Disposal of packaging:** Arrange for collection by specialised disposal company.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN3264

### 14.2. UN proper shipping name

**Shipping name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
(ORTHOPHOSPHORIC ACID <2%)

### 14.3. Transport hazard class(es)

**Transport class:** 8

### 14.4. Packing group

**Packing group:** III

### 14.5. Environmental hazards

**Environmentally hazardous:** Yes

**Marine pollutant:** No

### 14.6. Special precautions for user

**Special precautions:** No special precautions.

**Tunnel code:** E

**Transport category:** 3

**IMDG seg. group:** ACIDS

## Section 15: Regulatory information

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

**Specific regulations:** Not applicable.

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

[cont...]

# SAFETY DATA SHEET

BLACKFAST 181 CHEMICAL BLACKING SOLUTION

Page: 10

## Section 16: Other information

### Other information

**Other information:** according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:** EUH208: Contains <name of sensitising substance>. May produce an allergic reaction.

H290: May be corrosive to metals.

H301+H331: Toxic if swallowed or if inhaled

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H332: Harmful if inhaled.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341: Suspected of causing genetic defects ({{{0||message=<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>||filter=(\_)?EXP\_ROUTE\_+}}}).

H350i: May cause cancer by inhalation.

H360D: May damage the unborn child.

H372: Causes damage to organs ({{{0||message=<or state all organs affected, if known>||filter=(\_)?ORGAN\_+}}}) through prolonged or repeated exposure ({{{1||message=<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>||filter=(\_)?EXP\_ROUTE\_+}}}).

H373: May cause damage to organs ({{{0||message=<or state all organs affected, if known>||filter=(\_)?ORGAN\_+}}}) through prolonged or repeated exposure ({{{1||message=<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>||filter=(\_)?EXP\_ROUTE\_+}}}).

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.