CASWELL
EUROPE

According to 1907/2006/EC, article 31 (REACH) and according to 1272/2008/EC (CLP

SECTION 1: Identification of the Mixture and Company/Undertaking

1.1 Product Identifier:	**Nickel Free** Blacking Solution (Ref:BDNFBS)
1.2 Relevant identification uses of mixture and uses advised against	
Use:	The product is used by diluting it 1 part to 3 parts of water in a tank at room temperature and metal components are dipped in it.
Relevant identified uses:	Nickel free room temperature blacking process for iron and steel
Environmental release category and industrial process categories:	ERC6b: Industrial use of reactive processing aids PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC13: Treatment of articles by dipping and pouring
Mixture supplied to that use in form of:	A mixture
Product category by type of chemical:	PC14 (Metal surface treatment products, including galvanic and electroplating products)
Sector of end use:	SU17 (General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment)
Uses advised against:	All professional and consumer uses
1.3 Details of supplier on health & safety sheet :	Oak Farm Nursery Station Hill, Station Hill Winchfield, Hampshire, Rg278BX Email: info@caswelleurope.co.uk Website: www.caswelleurope.co.uk Tel: 00 44 (0)1252 560515
1.4 Emergency Telephone:	00 44 (01252) 560515 (office hours only)

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SECTION 2: Hazards Identification

2.1 Classification of the Mixture according to Regulation (EC) No 1272/2008 (including Amendments):

Hazardous for the aquatic environment chronic Category 2

Label elements:

GHS09 (Aquatic-pollut)

Signal word:

None

Hazard statements (see Section 16 for the full text):

H411

Precautionary statements (see section 16 for full text):

None

Prevention:

P273

Response:

P391

Storage & Disposal:

P501

2.3 Other hazards:

The products is a mixture containing water with various ingredients of which copper sulphate, sodium chlorate and selenium dioxide are responsible for the aquatic hazardousness. Selenium dioxide is classified for specific target organ toxicity (STOT) repeated exposure (RE) but due to its diluted state the mixture is not. The skin and eye irritational effects of copper sulphate and phosphoric acid are no longer present due to their diluted state. Sodium chlorate is classified as an oxidising solid but due to its diluted state the mixture is not. In their undiluted form copper sulphate, sodium chlorate, selenium dioxide and potassium fluoride are classified for acute toxicity, but again due to the diluted state in which these individual substances are present, the mixture does not have to be classified as such.

2.4 Additional information:

None

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Section 3: Composition / Information on Ingredients

Product identifier type in accordance with Article 18(2) of Regulation (EC) No	Identifier number	Identification name	Weight % content (or range)	EC Number
CLP Annex VI number CLP Annex VI number CLP Annex VI number CAS number CLP Annex VI number CLP Annex VI number CAS number	029-004-00-0 017-005-00-9 034-002-00-8 7558-80-7 015-011-00-6 009-005-00-2 7732-18-5	Copper sulphate Sodium chlorate Selenium dioxide Sodium dihydrogenorthopho-sphate Phosphoric acid Potassium fluoride Water	1.1% w/w 2.0% w/w 1.0% w/w 6.5% w/w 0.8% w/w 1.0% w/w 87.5% w/w	231-847-6 231-887-4 231-194-7 231-449-2 231-633-2 232-151-5 Not available

3.2 Classification of individual constituents of the mixture in their pure 100% State according to the CLP regulation (Regulation EC No 1272/2008

Identification name	REACH registration number	Classification according to (EC) No 1272/2008 (including amendments
Copper sulphate	01-2119520566-40	Acute tox 4, Eye irrit 2, Skin irrit 2, Aquatic acute 1, Aquatic chronic 1
Sodium chlorate	01-2119474389-23	Oxidising solid 1, Acute tox 4, Aquatic chronic 2
Selenium dioxide	Exempt until 2018	Acute tox 3, STOT RE 2, Aquatic acute 1, Aquatic chronic 1
Sodium dihydrogenorthophosphate	01-2119489796-13	Not classified
Phosphoric acid	01-2119485924-24	Skin/Eye corr 1B
Potassium fluoride	01-2119555273-40	Acute tox 3
Water	Not required	Not classified

Section 4: First Aid Measures

Ingestion:	Give 2-4 cups full of milk or water, do not induce vomiting; seek medical advice if symptoms occur.
Skin contact:	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes before reuse.
Eye contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur.
Inhalation:	Move the exposed person to fresh air at once. Seek medical advice if symptoms occur.
First Aider Protection:	None specific

4.2 Most important symptoms and effects, both acute and delayed

Ingestion:	Slight irritation of the gastro-intestinal tract may occur.
Skin contact:	Slight irritation, redness may occur
Eye contact:	Slight irritation may occur
Inhalation:	None specific
General advice:	Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Specific treatments : No specific treatments

Section 5: Fire-fighting Measures

5.1 Extinguishing media (small and large fires)

Small Fire:	Water, water mist, foam, dry powder, CO2
Large Fire:	Water, water mist, foam, dry powder, CO2
Avoid:	This product is hazardous to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Hazardous combustion products : Decomposition products may include the following materials: sulfur oxides, phosphor oxides, fluorides, metal oxide/oxides
5.2.2 Protective Equipment and advice for fire fighters:	Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency measures

6.1.1 For non-emergency personnel:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
6.1.2 For emergency responders:	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

6.3.1 For containment:	Small spill : Move containers from spill area. Absorb spill with inert material, then place with shovel in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Large spill : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Absorb spill with inert material, then place with shovel in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
6.3.2 For cleaning up:	See Section 6.3.1
6.3.3 Other information:	None specific
6.4 Reference to other sections:	See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

Section 7: Storage & Handling

7.1 Precautions for Safe Handling:

Protective measures: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities:

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters:

Occupational exposure limits None

Derived no effect levels (expressed as Cu)
DNEL long term Dermal 0.041 mg/kg/day Workers systemic
DNEL short term Dermal 0.082 mg/kg/day Workers systemic
DNEL long Term Dermal 13.67 mg/kg/day Workers local

Predicted no effect concentrations (expressed as Cu)

PNEC aqua fresh water 7.8 µg/l PNEC aqua marine water 5.2 µg/l
PNEC STP 230 µg/l
PNEC sediment fresh water 87 mg/kg dw PNEC soil 65 mg/kg dw

8.2 Exposure controls

Avoid contact with skin and eyes. Do not swallow. Wear suitable protective equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Remove soiled or soaked clothing. Clean skin after work. At work do not eat, drink, smoke or take drugs. Keep away from food, drink and animal feeding stuffs.

8.2.1 Engineering controls:	Generic local exhaust ventilation (LEV) in the production area is always required to control inhalation exposure.
8.2.2 Personal protective equipment:	Respiratory protection Wear positive pressure self-contained breathing apparatus classified under EN137 : 2006 and give operators specific training. Hand protection Wear appropriate protective gloves to prevent skin exposure. Use chemically resistant gloves classified under EN374, class 6 (breakthrough time > 480 minutes) made of butyl rubber with a minimal thickness of 0.3 mm (preferably 0.7 mm). Give operators specific training. Discard gloves after one working day or when they have come into contact with the substance. Eye and Face protection Use tightly fitting safety goggles/face-shield (EN 166) Skin and body protection Use clothing and boots as usual in the chemical industry.
8.2.3 Environmental exposure controls:	Take precautionary measures against discharges into the environment.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:	Blue liquid (aqueous solution)
Odour:	Odourless
Odour threshold:	Not applicable
pH:	3.1
Melting point:	Not applicable as the product is an aqueous solution
Initial boiling point and boiling range:	Circa 100 degrees C
Flash point:	Not applicable as the product is an aqueous solution
Evaporation rate:	Not applicable as the product is an aqueous solution

Flammability:	Not applicable as the product is an aqueous solution
Upper/lower flammability or explosive limits:	Not applicable as the product is an aqueous solution
Vapour pressure:	Not applicable as the product is an aqueous solution
Relative vapour density (air=1):	Not applicable as the product is an aqueous solution
Relative density (water=1):	Circa 1
Solubility:	Freely miscible with water
Partition coefficient (n-octanol/water):	Not applicable as the product is an aqueous solution
Auto-ignition temperature:	Not applicable as the product is an aqueous solution
Decomposition temperature:	Not applicable as the product is an aqueous solution
Viscosity:	Not applicable as the product is an aqueous solution
Explosive properties:	Not applicable as the product is an aqueous solution
Oxidising properties:	Not applicable as the product is an aqueous solution

9.2 Other information

Critical Temperature:	Not applicable as the product is an aqueous solution

Section 10: Stability and Reactivity

10.1 Reactivity:	Product is stable under normal storage and usage conditions
10.2 Chemical stability:	The product is stable
10.3 Possibility of hazardous reactions:	None
10.4 Conditions to Avoid:	Extreme temperatures

10.5 Incompatible materials:	None
10.6 Hazardous decomposition products:	May create sulfur oxides, phosphor oxides, fluorides, metal oxide/oxides on thermal decomposition

SECTION 11: Toxicology Information

11.1 Information on toxicological effects

Acute toxicity:	In their undiluted form copper sulphate, sodium chlorate, selenium dioxide and potassium fluoride are classified for acute toxicity, but due to the diluted state in which these individual substances are present, the mixture does not have to be classified as such.
Skin corrosion/irritation:	The skin and eye irritational effects of copper sulphate, sodium chlorate and phosphoric acid are no longer present due to their diluted state.
Serious eye damage/irritation:	The skin and eye irritational effects of copper sulphate, sodium chlorate and phosphoric acid are no longer present due to their diluted state.
Respiratory or skin sensitisation:	No classification of the product or its constituents.
Germ cell mutagenicity:	No classification of the product or its constituents.
Carcinogenicity:	No classification of the product or its constituents.
Reproductive toxicity:	No classification of the product or its constituents.
STOT-single exposure:	No classification of the product or its constituents.
STOT-repeated exposure:	In its undiluted form selenium dioxide is classified for Specific Target Organ Toxicity Repeated Exposure (STOT RE) but due to its diluted state the mixture does not have to be classified as such.
Aspiration hazard:	None of the individual constituents of this aqueous solution is classified as such.

Further information:

The products is a mixture containing water with various other ingredients of which nickel sulphate is responsible for most of the above mentioned classifications.
Copper sulphate and selenium dioxide add to the aquatic hazardousness of nickel sulphate.
Selenium dioxide adds to the classification for specific target organ toxicity (STOT) repeated exposure (RE) of nickel sulphate.
The skin and eye irritational effects of nickel sulphate, copper sulphate and phosphoric acid are no longer present due to their diluted state.
In their undiluted form copper sulphate, nickel sulphate, selenium dioxide and potassium fluoride are classified for acute toxicity, but again due to the diluted state in which these individual substances are present, the mixture does not have to be classified as such.

SECTION 12: Ecological Information

12.1 Toxicity:

Aquatic toxicity:
The product is classified as hazardous for the aquatic environment chronic Category 2.

12.2 Persistence and degradability:

By their nature the individual ingredients of this aqueous mixture are not readily biodegradable and will persist in the environment as such.

12.3 Bioaccumulative potential:

None

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

The mixture does not contain any ingredients which are PBT or vPvB or substances of very high concern.

12.6 Other adverse effects:

Copper sulphate, sodium chlorate and selenium dioxide are responsible for the aquatic hazardousness of the mixture.

SECTION 13: Disposal Considerations

13.1 Waste disposal methods:

GENERAL
Must not be disposed of together with household garbage. Treat as chemical waste. Do not allow product to reach sewer system. Contact manufacturer for recycling information.
EUROPEAN WASTE CATALOGUE 06 03 13 - solid salts and solutions containing heavy metals

SECTION 14: Transport Information

14.1 UN:	3082 (aqueous solution containing nickel sulphate)
14.2 Proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. contains <1.5% Selenious acid & <1.5% Copper sulphate.
14.3 Transport hazard class:	9
14.4 Packing group:	111
14.5 Environmental hazards:	Harmful to aquatic life with long lasting effects
14.6 Special precautions for user:	None specific
14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC code:	Not applicable as the product should not be transported in bulk

SECTION 15: Regulatory Information

15.1 Safety health and environmental regulations/legislation specific for the substance/mixture:	The information contained in this safety data sheet does not constitute the users own assessment of workplace risks as required by other health and safety regulations This product has been assessed to ensure of compliance to the EU REACH and CLP Regulations
15.2 Chemical Safety Assessment:	The product is determined as being hazardous

SECTION 16: Other Information

Methods of evaluation:	None specific
References:	None specific
Abbreviations:	None specific

Hazard statements:

H411: Toxic to aquatic life with long lasting effects

Precautionary statements:

P273: Avoid release to the environment
P391: Collect spillage
P501: Dispose of contents/container in accordance with local and national regulations

The information contained herein is carefully presented, based on the data we have. However, all precautions described herein are for normal handling, not for special handling. Please establish the safe usage in accordance with your handling procedures by reference to this SDS and applicable laws and guidance. In addition, the description, composition, and physical/chemical properties are typical values and not guaranteed for this product.