

MATERIAL SAFETY DATA SHEET

Originally Prepared: July 23, 2009

Revision: February 2, 2012

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Identification of the substance or preparation

Caramel Colour

REACH Legal Entity Name	REACH Pre-Registration Number
D.D. Williamson (Ireland) Ltd.	ZH451037-29
D.D. Williamson (UK) Ltd.	FC458722-49

EEC NUMBER: E150

1.2 Use of Substance

Colour for foodstuffs in which colouring is permitted.

1.3 Company Identification

D.D. Williamson & Co., Inc., 1901 Payne Street, P.O. Box 6001, Louisville, KY., 40206 USA 1-800-CARAMEL

D.D. Williamson (Ireland) Ltd., Little Island Business Park, Co. Cork, Ireland 353-21-4353821

D.D. Williamson (UK) Ltd., Trafford Park, Manchester M17 1PA, England 44-161-886-3345

Superior Powders, Ltd., Factory Lane, Bason Bridge, Highbridge, Somerset TA9 4RP, United Kingdom 44 (0) 1278 784521

D.D. Williamson Ingredients (Shanghai) Ltd., 3823 Jiang Cheng Road, Shanghai 200245, P.R. China 86-21-5-4720868

D.D. Williamson (Pty) Ltd., Box 1084, Smithco Industrial Park # 19, King Mswati III Avenue, Plot 471, Matsapha, Swaziland 268-51-84869

D.D. Williamson do Brasil Ltda., Ave. Buriti 5680, Distrito Industrial, 69075 – Manaus AM, Brasil 55-92-3301-4000

MSDS inquiries can also be submitted to jennifer.guild@ddwmson.com

1.4 Emergency Telephone Number

USA 1-800-CARAMEL (only during office hours)

Ireland 353-21-4353821 (only during office hours)

England 44-161-886-3345 (only during office hours)

United Kingdom 44 (0) 1278 784521 (only during office hours)

P.R. China 86-21-5-4720868 (only during office hours)

Swaziland 268-51-84869 (only during office hours)

Brasil 55-92-3301-4000 (only during office hours)

2. HAZARDS IDENTIFICATION

Substance is not classified as dangerous. This colour poses no hazards under normal conditions of handling and usage. If misused in its concentrated form, the colour may be harmful to health.

2.1 EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 The colour is manufactured by controlled heating of carbohydrates alone or in the presence of food-grade acids, alkalis, or salts.

Caramel Colour

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D.D. Williamson (Ireland) Ltd.	ZH451037-29
D.D. Williamson (UK) Ltd.	FC458722-49

CAS NUMBER: 8028-89-5

EINECS NUMBER: 232-435-9

3.3 EUH 401: To avoid risks to human health and the environment, comply with the instructions for use.

4. FIRST AID MEASURES

INHALATION: Move patient to place with clear air. Ventilate. Obtain medical advice if irritation persists.

SKIN CONTACT: Remove contaminated clothing. Colour may stain skin. Wash with water and soap. Obtain medical advice if irritation persists. An eyewash and safety shower should be readily available.

EYE CONTACT: Check for and remove any contact lenses. Flush opened eye (including under eyelids) with running water for 15 minutes. Obtain medical advice if irritation persists. An eyewash and safety shower should be readily available.

INGESTION: Drink lots of water to dilute substance. Do not induce vomiting. Obtain medical advice if irritation persists.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: CO₂, Foam, Dry Chemicals, Water

NON-SUITABLE EXTINGUISHING MEDIA: Powder, hazards of dust cloud formation.

SPECIAL FIREFIGHTING PROCEDURES: None. Use water spray to cool containers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Avoid sparks and open flames. Heat may generate irritating or corrosive vapours.

SPECIAL PROTECTIVE EQUIPMENT: Wear approved respirator, flame and chemical resistant clothing, boots, and gloves.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Ventilate site. Do not get into eyes, on skin, or clothing. Wear safety glasses or goggles, chemical resistant gloves, and apron when handling.

ENVIRONMENTAL PRECAUTIONS: Avoid any spillage from entering waterways, drains or sewage as product may contribute to biochemical oxygen demand (BOD) and chemical oxygen demand (COD).

METHODS FOR CLEAN UP: Clean up small quantities with a damp cloth. Standard absorbents can be used. Large spills may be pumped into closed containers for recovery and disposal.

7. HANDLING AND STORAGE

7.1 Handling

Maintain good ventilation. Consistent with good hygiene and lab practices, wear safety glasses or goggles, gloves and apron when handling. Where aerosols are created use suitable dust mask or breathing apparatus. Avoid high temperatures and flames. *Do not eat drink or smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas.*

7.2 Storage

Keep container tightly sealed. Stainless steel or polyethylene containers are preferred. Keep in a cool dark dry place. High temperature storage accelerates product degradation. Incompatible with strong oxidizing agents. Avoid extended storage by using as soon as possible within designated shelf life.

7.3 Specific Uses

Colour for foodstuffs in which colouring is permitted. It is the user's responsibility to ensure that the conditions and possible uses of the product conform to local laws and regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Limit Values

Substance is an approved food additive and not classified as dangerous. This colour poses no exposure hazards under normal conditions of handling and approved levels of ingestion. If misused in its concentrated form, the colour may be harmful to health.

8.2 Exposure Controls

VENTILATION AND OTHER ENGINEERING CONTROLS: Keep airborne concentration of colour low by enclosing production processes whenever possible.

EYE: Wear protective glasses. An eyewash and safety shower should be readily available.

HAND: Wear protective gloves during manufacture or handling of this colour.

SPECIAL CLOTHING: Special clothing is not normally necessary when manufacturing or handling this colour within a closed system. Wear chemical resistant full body coveralls whenever there is a possibility of splash or appreciable contact with vapors during manufacturing or handling.

OTHER PROTECTIVE DEVICES AND PROCEDURES: Follow good manufacturing practice.

RESPIRATORY: Work in well ventilated area.

MEDICAL SURVEILLANCE RECOMMENDATION: None.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General Information

APPEARANCE: Brown Liquid

ODOUR: Characteristic of burnt sugar

9.2 Important Health, Safety and Environmental Information

pH: ≤ 7

BOILING POINT: $>100^{\circ}\text{C}$ (212°F)

FLASH POINT: $>200^{\circ}\text{C}$ (392°F)

FLAMMABILITY: Not established

EXPLOSIVE PROPERTIES: Not established

OXIDISING PROPERTIES: Not established

VAPOR PRESSURE: Not established

RELATIVE DENSITY: 1.2 - 1.4

SOLUBILITY: Water

WATER SOLUBILITY: Soluble

PARTITION COEFFICIENT: Not established

VISCOSITY: Not established

VAPOR DENSITY: Not established

EVAPORATION RATE: Not established

9.3 Other Information

MISCIBILITY: Not established
FAT SOLUBILITY (VEGETABLE OIL): Insoluble
CONDUCTIVITY: Not established
MELTING POINT: Not applicable
AUTO-IGNITION TEMPERATURE: Not established

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable and non-reactive under normal conditions of use and storage.

10.2 Chemical Stability

Tendency to continue the polymerization process forming a gel.

10.4 Conditions to Avoid

May degrade in light. Avoid extended storage by using as soon as possible within designated shelf life.

10.5 Materials to Avoid

Avoid strong acids, bases, and oxidizing agents.

10.6 Hazardous Decomposition Products

No known hazardous materials produced in dangerous amounts upon decomposition.

11. TOXICOLOGICAL INFORMATION

Substance is an approved food additive and not classified as toxic. This colour poses no known toxic exposure hazards under normal conditions of handling and approved levels of ingestion. If misused in its concentrated form, the colour may cause irritation and be harmful to health.

12. ECOLOGICAL INFORMATION

12.2 Persistence and Degradability

Colour is biodegradable.

12.4 Bioaccumulative Potential

Colour is not bioaccumulative as organisms metabolize it.

12.5 Other Adverse Effects

Product may contribute to biochemical oxygen demand (BOD) and chemical oxygen demand (COD).

13. DISPOSAL CONSIDERATIONS

Dispose of this colour in accordance with Federal, State, County, and local regulations. Avoid any spillage from entering waterways, drains or sewage as product may contribute to biochemical oxygen demand (BOD) and chemical oxygen demand (COD).

14. TRANSPORT INFORMATION

There are no special transportation requirements for this colour.

Caramel Colour is not classified as hazardous under the US Department Of Transportation (DOT) regulations. Further, in that the DOT regulations follow the Recommendations on the Transport of Dangerous Goods by the United Nations Committee of Experts, determination that Caramel Colours are not dangerous also applies to international shipments under those regulations and tariffs which follow the UN recommendations, e.g. IMO (ocean transport) and ICAO (air).

15. REGULATORY INFORMATION

EUROPEAN UNION (EU): No Chemical Safety Assessment has been carried out for the substance. This colour is not considered hazardous according to 67/548/EEC or 1999/45/EC. This product is in compliance with Directives 94/36/EC and 95/45/EC concerning the purity requirements of colours which can be added to foodstuffs.

UNITED STATES OF AMERICA (USA): All ingredients contained in this colour are approved for use pursuant to 21 CFR 73.85, a Regulation of the Food and Drug Administration, and conform to the specifications of the Food Chemical Codex (FCC).

CALIFORNIA PROPOSITION 65: The process of manufacturing Class III and IV Caramel Colours forms 4-Methylimidazole (4-Mel), a chemical believed by the state of California to cause cancer. 4-Mel is a common trace element created naturally in the heat processing of many food and beverage products, including Class III and IV Caramel Colours.

CANADA (CA): Caramel Colour is specified on the Domestic Substances List (DSL).

CHINA, PEOPLES REPUBLIC OF (PRC): This colour additive is permitted for use in foodstuffs according to GB2760-2007 Hygienic Standards for Uses of Food Additives.

JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES (JECFA): This product is in compliance with the monograph for Caramel Colour.

16. OTHER INFORMATION

16.1 THE MODIFIED TEXTS OF THE FORMER VERSIONS ARE MARKED WITH AN ASTERIK (*).

16.3 THE ABOVE INFORMATION WAS PREPARED FROM CURRENT AND REPUTABLE SOURCES. HOWEVER, THE DATA IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS CORRECTNESS OR ACCURACY.

16.5 EUH 401: TO AVOID RISKS TO HUMAN HEALTH AND THE ENVIRONMENT, COMPLY WITH THE INSTRUCTIONS FOR USE.

16.6 THE INFORMATION CONTAINED IN THIS DATA SHEET DOES NOT CONSTITUTE AN ASSESSMENT OF WORKPLACE RISKS. IT IS THE USERS' RESPONSIBILITY TO ENSURE SAFE CONDITIONS FOR HANDLING, STORAGE AND DISPOSAL OF THIS COLOUR AND TO ASSUME LIABILITY FOR LOSS, INJURY, DAMAGE, OR EXPENSE RESULTING FROM IMPROPER USE OF THIS COLOUR.

**MATERIAL SAFETY DATA SHEET PREPARED BY
D.D. WILLIAMSON SUPPORT CENTER, FEBRUARY 2012
IN CONFORMITY WITH (EC) 1907/2006 (REACH) AND (EC) 1207/2008 (CLP) REGULATIONS**