SAFETY DATA SHEET

Originally Prepared: 13 May 2008
Revision: 04 Jun 2015

1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY
   1.1 Identification of the substance or preparation
   Caramel Colour Liquid
   REACH Legal Entity Name                REACH Pre-Registration Number
   D.D. Williamson (Ireland) Ltd.          ZH451037-29
   D.D. Williamson (UK) Ltd.               FC458722-49
   ECC NUMBER: E150
   1.2 Use of Substance
   As a for foodstuffs where permitted.
   1.3 Company Identification
   DDW Colors LLC, 815 Sunset Rd, Port Washington, WI, 53074-0410 USA 1-262-268-7272
   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
   DDW Colours, Ltd., Unit D. Island Corporate Park, Little Island, Co. Cork, Ireland 353-21-4978150
   D.D. Williamson (UK) Ltd., Trafford Park Road, Manchester M17 1PA, England 44-161-886-3345
   Superior Powders, Ltd., Factory Lane, Bason Bridge, Highbridge, Somerset TA9 4RN, 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., Smithco Industrial Park #19, King Mswati Ill Avenue, Plot 471, Matsapha, Swaziland 268-251-84869
   SDS inquires can also be submitted to jennifer.guild@ddwcolor.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 268-251-84869 (only during office hours)
   Brasil 55-92-3301-4000 (only during office hours)

2. HAZARDS IDENTIFICATION
   Substance is not classified as dangerous. This product poses no hazards under normal conditions of handling and usage. If
   misused in its concentrated form, the product may be harmful to health.
   Classification: Not Applicable
   Pictogram: Not Applicable
   Signal Word: Not Applicable
   Hazard Statement: Not Applicable
   Precautionary Statement: Not Applicable
   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 product is manufactured by controlled heating of carbohydrates alone or in the presence of food grade acids, alkalis, or
   salts.
   The identity of the individual components of this product is proprietary information and is considered a trade secret pursuant to
   Caramel Colour Liquid
   REACH Legal Entity Name                REACH Pre-Registration Number
   D.D. Williamson (Ireland) Ltd.          ZH451037-29
   D.D. Williamson (UK) Ltd.               FC458722-49
   CAS NUMBER: 8028-89-5
   EINECS NUMBER: 232-435-9
   This material is considered non-hazardous by the OSHA Hazard Communication Standard (29 CFR § 1910.1200).
   3.2 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 clean air. Ventilate. Obtain medical advise if irritation persists.
SKIN CONTACT: Remove contaminated clothing. Product may stain skin. Wash with water and soap. Obtain medical advise 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. Do not allow person to rub eyes or keep eyes closed. 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 advise if irritation persists.

5. FIRE-FIGHTING MEASURES
EXTINGUISHING MEDIA: CO2, Dry Chemicals, Foam, 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 biological 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 can 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 dry cool dark 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
As a foodstuffs where 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 not classified as hazardous. This product poses no hazards under recommended conditions of handling and usage. If misused in its concentrated form, the product may be harmful to health.
Control Parameters
Not Applicable
8.2 Exposure Controls
VENTILATION AND OTHER ENGINEERING CONTROLS: Keep airborne concentration of product low by enclosing production processes whenever possible.
EYE: Wear protective glasses, goggles or face shield. An eyewash and safety shower should be readily available.
HAND: Wear protective gloves during manufacture or handling of this product.
SPECIAL CLOTHING: Special clothing is not normally necessary when manufacturing or handling this product within a closed system. Wear chemical resistant full body coveralls whenever there is a possibility of splash or appreciable contact with vapours during manufacture 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
ODOUR THRESHOLD: Not Established
9.2 Important Health, Safety and Environmental Information

pH: 3 – 10

MELTING POINT: Not established
BOILING POINT: >100°C (212°F)
FLASH POINT: >200°C (392°F)
FLAMMABILITY: Not established
EXPLOSIVE PROPERTIES: Not established
OXIDISING PROPERTIES: Not established
VAPOUR PRESSURE: Not established
RELATIVE DENSITY: 1.0 – 1.5
SOLUBILITY: Water
WATER SOLUBILITY: Soluble
PARTITION COEFFICIENT: Not established
VISCOSITY: Not established
VAPOUR DENSITY: Not established
EVAPORATION RATE: Not established

9.3 Other Information

MISCIBILITY: Not established
FAT SOLUBILITY (VEGETABLE OIL): Insoluble
CONDUCTIVITY: Not established
AUTO-IGNITION TEMPERATURE: Not established
DECOMPOSITION 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. This product is stable under normal storage conditions. Avoid extended storage by using as soon as possible within designated shelf life.

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 oxidising agents

10.6 Hazardous Decomposition Products
No known hazardous materials produced in dangerous amounts upon decomposition.

11. TOXICOLOGICAL INFORMATION

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

Substance(s) listed on IARC Monograph: Not applicable.
Substance(s) listed as OSHA Carcinogen(s): Not applicable.
Substance(s) listed as NIOSH Carcinogen(s): Not applicable.
Substance(s) listed on the NTP Report on Carcinogens (ROC): Not applicable.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
May lead to a local change in the pH of an aquatic environment which may have adverse effects on aquatic organisms.

12.2 Persistence and Degradability
Product is biodegradable.

12.3 Bioaccumulative Potential
Product is not bioaccumulative as organisms metabolize it.

12.4 Mobility in Soil
The product is water soluble and may spread in water systems.

12.5 Other Adverse Effects
Product may contribute to biological oxygen demand (BOD) and chemical oxygen demand (COD).

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

14. TRANSPORT INFORMATION
There are no special transportation requirements for this product. This product 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 this colour is not dangerous also applies to international shipments under those regulations and tariffs which follow the UN recommendations, e.g. IMDG (ocean transport) and IATA (air transport).

15. REGULATORY INFORMATION

EUROPEAN UNION (EU): No Chemical Safety Assessment has been carried out for this substance. This product is not considered hazardous according to 67/548/EEC or 1999/45/EC. This product is in compliance with EU regulations 1129/2011 and 231/2012 concerning the purity requirements of ingredients which can be added to foodstuffs.

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

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

16. OTHER INFORMATION

16.1 VERSIONS OF THIS DOCUMENT DATED PREVIOUS TO THE REVISION DATE ON THIS DOCUMENT ARE NO LONGER VALID.

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 PRODUCT AND TO ASSUME LIABILITY FOR LOSS, INJURY, DAMAGE, OR EXPENSE RESULTING FROM IMPROPER USE OF THIS PRODUCT.

SAFETY DATA SHEET PREPARED BY
D.D. WILLIAMSON SUPPORT CENTER, June, 2015
IN CONFORMITY WITH (EC) 1907/2006 (REACH), (EC) 1207/2008 (CLP) REGULATIONS, AND OSHA 1910.1200