SAFETY DATA SHEET

LIQUID CARAMEL COLOUR

CAS No.: 8028-89-5

This Safety Data Sheet is issued by Suraj Chemicals as the distributor/supplier of record, based on manufacturer and published GHS / regulatory reference data for this substance. Users should also consult the specific manufacturer's SDS where available.

1. IDENTIFICATION

GHS Product identifier

LIQUID CARAMEL COLOUR
Caramel; Caramel Colour, Liquid Grade
CAS: 8028-89-5

Other means of identification

INS/E Number: E150 (Caramel colour). Manufacturing class (Class I – plain caustic caramel; Class II – caustic sulfite caramel; Class III – ammonia caramel; or Class IV – ammonia sulfite caramel, per Codex/JECFA classification) determines whether sulfite and/or ammonium compounds are used in manufacture, and hence the presence/level of process-related trace substances such as 4-methylimidazole (4-MEI, relevant to Class III/IV) – the specific class of this batch is available on request via Certificate of Analysis.

Recommended use of the chemical and restrictions on use

Relevant uses: Food-grade colouring agent for beverages (including cola-type soft drinks), confectionery, bakery, sauces and savoury products, and for non-food industrial colouring applications. Suitable for food use only where a food-grade certified batch/COA is supplied.

Uses advised against: All uses not specified in this section or in section 7.3.

Supplier's details

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Caramel colour is **not classified** as hazardous under GHS criteria based on available data; it is a widely used, well-established food colouring additive.

Not classified	No hazard category applies based on standard data for caramel colour, CAS 8028-89-5

GHS label elements, including precautionary statements

GHS: No pictogram/signal word required.

Hazard statements

None assigned.

Precautionary statements

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/eye protection when handling bulk material.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501: Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification

Product is a dark, intensely staining liquid – will stain skin, clothing and surfaces. Concentrated product is very viscous/sticky, creating a slip hazard if spilled. Ammonia-process and ammonia-sulfite process caramel colours (Class III/IV) may contain trace levels of 4-methylimidazole (4-MEI), a process-related substance subject to regulatory monitoring/limits in some jurisdictions – not a GHS classification driver at the levels present in compliant food-grade product, but noted here for information; consult the batch COA for the specific manufacturing class and 4-MEI content. Not a PBT/vPvB substance.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

Chemical description: Caramel Colour (thermally processed carbohydrate colourant), liquid grade

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 8028-89-5	Caramel colour – Not classified	Colour intensity/tinctorial strength and manufacturing class (I/II/III/IV) are grade dependent – available on request via batch COA
CAS: 7732-18-5	Water – Not classified	Balance (liquid grade, typically standardized to a target colour strength)

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

Mixtures

Non-applicable

4. FIRST AID MEASURES

Description of necessary first-aid measures

Request medical assistance if symptoms occur or persist, showing the SDS of this product.

By inhalation

Remove the person affected to fresh air. Not normally expected to require treatment.

By skin contact

Wash skin with soap and water. Product will stain skin temporarily – this is not indicative of a chemical burn.

By eye contact

Rinse eyes thoroughly with lukewarm water for several minutes. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration

No specific treatment normally required – this is an approved food colouring additive. Rinse mouth with water if desired.

Most important symptoms/effects, acute and delayed

None expected under normal use beyond temporary staining. See section 11.

Indication of immediate medical attention and special treatment needed, if necessary

Not relevant

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Suitable: Water spray/fog, foam, dry chemical powder, carbon dioxide (product is a non-flammable, sugar-based aqueous liquid).
Unsuitable: None known

Specific hazards arising from the chemical

Not flammable in its liquid form. Combustion of the dried/concentrated carbohydrate residue (in a surrounding fire) may produce carbon monoxide and carbon dioxide, and, for ammonia-process grades, oxides of nitrogen.

Special protective actions for fire-fighters

Wear self-contained breathing apparatus and full protective clothing in case of surrounding fire. Cool fire-exposed containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Use appropriate PPE (see Section 8). Note significant slip hazard from spilled viscous/sticky product, and staining of skin/clothing.

For emergency responders

Not normally required for this low-hazard product.

Environmental precautions

Prevent large spills from entering drains/watercourses, as the concentrated sugar-based material can significantly elevate biological/chemical oxygen demand.

Methods and materials for containment and cleaning up

Contain spill with sand/inert absorbent or dilute and mop up with water, and place in a labelled container for disposal. Wash residual sticky/staining area thoroughly with water.

Reference to other sections

See sections 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling

A. General precautions for safe use

Avoid contact with eyes and clothing due to staining. Keep containers closed when not in use.

B. Technical recommendations for the prevention of fires and explosions

Non-flammable liquid – no special fire prevention measures required beyond good housekeeping.

C. Technical recommendations on general occupational hygiene

Maintain good food-hygiene practice during handling of food-grade batches. Wash hands after handling.

D. Technical recommendations to prevent environmental risks

Provide bunding for bulk storage tanks. Prevent large quantities from entering drains or watercourses.

Conditions for safe storage, including any incompatibilities

A. Specific storage requirements

Minimum Temp.	5°C
Maximum Temp.	30°C
Maximum time (unopened, original packaging)	12 Months

B. General conditions for storage

Store in tightly closed original containers, in a cool, dry place away from direct sunlight and strong oxidizing agents. Protect from freezing and excessive heat, which may affect colour stability/viscosity.

Specific end use(s)

Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

No specific occupational exposure limit is established for caramel colour under the Factories Act, 1948.

Appropriate engineering controls

General ventilation is normally sufficient.

B. Respiratory protection

Not normally required under normal conditions of use.

C. Specific protection for the hands

Standard work gloves recommended to avoid staining.

D. Eye and face protection

Safety glasses recommended when handling bulk material.

E. Bodily protection

Standard work clothing; food-hygiene attire for food-grade handling.

F. Additional emergency measures

Eyewash station recommended where bulk material is handled.

Environmental exposure controls

No special measures required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	
Physical state at 20°C	Liquid
Appearance	Viscous liquid
Color	Dark brown to black
Odor	Characteristic burnt-sugar odor
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	≈100°C (water-based)
Vapour pressure at 20°C / 50°C	≈ that of water
Evaporation rate at 20°C	≈ that of water
Product Description	
Density / Relative density at 20°C	Approx. 1.30–1.40 g/cm³
Dynamic / Kinematic viscosity	High (viscous, grade/concentration dependent) – available on request
Concentration	Colour intensity/solids content per grade – available on request
pH (as supplied)	Approx. 2.5–4.5 (Class III/IV, acidic) or up to neutral/alkaline range for Class I, grade dependent
Vapour density at 20°C	Not relevant *
Partition coefficient n-octanol/water 20°C	Not relevant (complex polymeric carbohydrate mixture)
Solubility in water at 20°C	Fully miscible
Decomposition temperature	Not established for this grade
Melting point/freezing point	Non-applicable (liquid; supercools/thickens at low temperature rather than sharply freezing)
Flammability	
Flash Point	Non-applicable (aqueous solution)
Flammability (solid, gas)	Non-applicable
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Non-applicable (liquid)

** Not relevant due to the nature of the product, not providing information on the properties of its hazards.*

Other information

Explosive properties	Not explosive
Oxidising properties	Not an oxidizer
Corrosive to metals	Not classified as corrosive to metals; mildly acidic grades (Class III/IV) may be mildly corrosive to some metals on prolonged contact
Heat of combustion	Not relevant *
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical stability

Chemically stable under the indicated conditions of storage, handling and use. Colour intensity may gradually change (fade or darken) with prolonged exposure to light, heat or extreme pH.

Possibility of hazardous reactions

Under the specified conditions, hazardous reactions are not expected.

Conditions to avoid

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid prolonged high heat (colour/viscosity change)	Avoid prolonged direct exposure (colour fading)	Not applicable (aqueous)

Incompatible materials

Strong Oxidizers	Strong Acids/Alkalis (extreme pH)
Avoid contact	May affect colour stability

Hazardous decomposition products

None under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Caramel colour is a well-established, widely used food colouring additive (E150) with a long history of safe use under JECFA/Codex and applicable national food regulations at permitted use levels.

A. Ingestion (acute effect)

Practically non-toxic. Approved for food use at typical use levels (Good Manufacturing Practice / quantum satis, per applicable food regulations and manufacturing class specifications).

B. Inhalation (acute effect)

Not expected to cause harm under normal handling of the liquid product.

C. Contact with skin and eyes (acute effect)

Not expected to cause irritation under normal conditions; may cause temporary staining.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity)

Caramel colour itself is not classified as CMR. For ammonia-process/ammonia-sulfite process grades (Class III/IV), trace levels of 4-methylimidazole (4-MEI), a process by-product, are controlled to within applicable regulatory limits (e.g. JECFA/Codex, and jurisdiction-specific limits such as those under California Proposition 65 for certain use levels); this is a labelling/regulatory consideration for the finished food product rather than a GHS classification driver for the raw material at compliant levels. Consult the batch COA for manufacturing class and 4-MEI content.

E. Sensitizing effects

Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure

Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure

Classification criteria are not met based on available data.

H. Aspiration hazard

Not applicable (viscous aqueous liquid, not a hydrocarbon).

Product-specific toxicological information

Identification	Acute Toxicity	Genus
Caramel colour CAS: 8028-89-5	LD50 oral: >5000 mg/kg (practically non-toxic, class data)	Rat

12. ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment.

Toxicity

Caramel colour has low aquatic toxicity (class data for food-grade carbohydrate colourants; LC50/EC50 typically >100 mg/L for fish/invertebrates). As a concentrated organic/carbohydrate material, large spills can significantly elevate biological/chemical oxygen demand (BOD/COD) in receiving water, causing localized oxygen depletion.

Persistence and degradability

Readily biodegradable (carbohydrate-based material).

Bioaccumulative potential

Not expected to bioaccumulate.

Mobility in soil

Koc	Henry	Dry Soil	Moist Soil
Low (water soluble)	Low	High mobility (soluble)	High mobility

Results of PBT and vPvB assessment

Not expected to meet PBT/vPvB criteria – readily biodegradable.

Other adverse effects

Not described

13. DISPOSAL CONSIDERATIONS

Disposal methods

Non-hazardous organic liquid; small quantities may be diluted and disposed of via normal trade effluent in accordance with local discharge regulations (subject to BOD/COD limits); larger quantities should be handled per local industrial/food-industry waste regulations.

Refer to national and local regulations on waste management.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023)

14.1 UN number	Not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22)

14.1 UN number	Not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Marine pollutant	No
14.6 Special precautions for user	Not regulated
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024)

14.1 UN number	Not regulated as dangerous goods
14.2 UN proper shipping name	Non-applicable
14.3 Transport hazard class(es)	Non-applicable
14.4 Packing group	Non-applicable
14.5 Environmental hazard	No
14.6 Special precautions for user	Not regulated
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation

Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011 (India) – permitted colour, INS 150(a)/(b)/(c)/(d) as applicable to manufacturing class
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
Public Liability Insurance Act, 1991

16. OTHER INFORMATION

Legislation related to safety data sheets

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3

Non-applicable – no hazard statements are assigned to this product.

Not applicable, as the product is not classified as hazardous.

Advice related to training

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources

The United Nations Economic Commission for Europe (UNECE); JECFA/Codex Alimentarius specifications for Caramel Colours (INS 150a/150b/150c/150d); publicly available GHS classification and physicochemical reference data for caramel colour (CAS 8028-89-5).

Abbreviations and acronyms

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | LD50: Lethal Dose 50 | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | 4-MEI: 4-Methylimidazole | INS: International Numbering System for Food Additives | JECFA: Joint FAO/WHO Expert Committee on Food Additives

Disclaimer: The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

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