benzidine

IDENTIFICATION NUMBERS

- **CAS:** 92-87-5
- **EC/EINECS:** 202-199-1
- **International Chemical Safety Card (ICSC):** 0224

MORE INFORMATION

- **Molecular Formula:** C12H12N2
- **Synonyms:** 1,1'-bifenil-4,4'-diamina 4,4'-diaminobifenilo, colorante azoico

⚠ **Black list — Substances particularly hazardous to the environment or health**

CLASSIFICATION AND LABELLING (Regulation 1272/2008)

Symbols



GHS07

Acute toxicity (oral, dermal, inhalation



GHS08

Respiratory sensitisation



GHS09

Hazardous to the aquatic environment

Signal word: **Danger**

H Phrases

H350 : May cause cancer

Carc. (Cat. 1A) : Carcinogenicity

H302 : Harmful if swallowed

Acute Tox. (Cat. 4 *) : Acute toxicity

H400 : Very toxic to aquatic life

Aquatic Acute (Cat. 1) : Hazardous to the aquatic environment

H410 : Very toxic to aquatic life with long lasting effects

Aquatic Chronic (Cat. 1) : Hazardous to the aquatic environment

Labelling

Concentration	Labelling
C >= 0,01 %	Carc. Cat. 1; R45
C >= 0,01 %	Carc., 1A; H350

Specific health risks

Breast cancer

Substances classified with H362 phrase (may cause harm to breast-fed children). Toxic for reproduction due to effects on lactation or due to transmissibility through breast milk.

SOURCE

http://sciencereview.silentspring.org/mamm_detail.cfm?cid=92-87-5

Carcinogens (other sources)

Substances classified as carcinogens or mutagens Category 3 under the Dangerous Preparations Directive criteria (pre-CLP). Substances with limited evidence or indications of carcinogenicity or mutagenicity.

CATEGORY

G-A1, N-1, CP, O

SOURCE

OSHA, ACGIH, NTP, CP65

Neurotoxic substances

Substances with neurotoxic effects

LEVEL

1

According to IARC

Substances classified as carcinogens or mutagens Category 2 under the CLP Regulation (GHS), bearing H351 and/or H341 phrases. These are substances suspected of causing cancer or heritable genetic mutations in humans.

IARC GROUP

Grupo 1

IARC VOLUME

(VOL. 29, Sup 7, Vol. 99, Vol. 100F; 2012)

Prohibited for breastfeeding workers

Chemical agents whose exposure is prohibited for breastfeeding workers under Royal Decree 298/2009 and Directive 92/85/EEC. Includes substances that may be transmitted through breast milk or that negatively affect milk production.

Prohibited for pregnant workers

Chemical agents whose exposure is prohibited for pregnant workers under Royal Decree 298/2009 (amendment of RD 39/1997) and Directive 92/85/EEC. Includes substances with proven risk of foetal harm, miscarriage or pregnancy complications.

Carcinogens and mutagens (Regulation 1272/2008)

Substances classified as carcinogenic or mutagenic under Regulation 1272/2008

Restriction/prohibition regulations

Restricted substances under REACH

Substances listed in Annex XVII of the REACH Regulation (EC) No 1907/2006, subject to restrictions on their manufacture, placing on the market or use. Restrictions may be total or partial, limiting specific applications, maximum concentrations or user groups.

NOTES

Substances falling within one or more of the following points: (a) substances classified as any of the following in Part 3 of Annex VI to Regulation (EC) No 1272/2008: —carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, but excluding any such substances classified due to effects only following exposure by inhalation —reproductive toxicant category 1A, 1B or 2 but excluding any such substances classified due to effects only following exposure by inhalation —skin sensitiser category 1, 1A or 1B —skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2 —serious eye damage category 1 or eye irritant category 2 (b) substances listed in Annex II to Regulation (EC) No 1223/2009 of the EuropeanParliament and of the Council1 (c) substances listed in Annex IV to Regulation (EC) No 1223/2009 for which a condition is specified in at least one of the columns g, h and i of the table in that Annex (d) substances listed in Appendix 13 to this Annex. The ancillary requirements in paragraphs 7 and 8 of column 2 of this entry apply to all mixtures for use for tattooing purposes, whether or not they contain a substance falling within points (a) to (d) of this column of this entry. Conditions of restriction 1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances: (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight; (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight; (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the

Major accident hazards (Seveso)

Hazardous substances listed in Annex I of the Seveso III Directive (Directive 2012/18/EU), transposed in Spain by Royal Decree 840/2015. Their presence in industrial establishments in quantities equal to or above established thresholds triggers obligations to implement major accident risk control measures.