

SECTION 1 – CHEMICAL IDENTIFICATION

This SDS refers to the following VKIT product codes:

VSOL-LC23 HPLC UV Response Linearity Standards 1-5
VSOL-LC77 HPLC Autosampler Precision Standard
VSOL-LC99 HPLC Far-UV Wavelength Accuracy Standard
VSOL-LC24 LCMS Caffeine Standards 1-6
VSOL-LC30 HPLC CAD Caffeine Standards 1-6

V5-2012 and **VSOL-2012** HPLC Gradient with UV Kit
V5-2022 and **VSOL-2022** HPLC Gradient with Far-UV Kit
V5-2052 and **VSOL-2052** HPLC UV Detector Kit
V5-6022 LCMS Single and Triple Quad Kit
V5-2132 and **VSOL-2132** HPLC CAD Detector Kit

SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

Caffeine in water with concentrations varying from 0.1 – 500 µg/mL
 Each glass vial contains approximately 5 mL

CAS#	EINECS#	Name
58-08-2	200-362-1	Caffeine
7732-18-5	231-791-2	Water

SECTION 3 – HAZARDS IDENTIFICATION

Potential Health Effects

Eye: No known significant effects or hazards.

Skin: No known significant effects or hazards.

Ingestion: No known significant effects or hazards.

Inhalation: No known significant effects or hazards.

Chronic: No known significant effects or hazards.

SECTION 4 – FIRST AID MEASURES

No specific treatment is necessary for eyes, skin, ingestion or inhalation as this material is non-hazardous.

SECTION 5 – FIRE FIGHTING MEASURES

This product does not represent a fire hazard since it contains a high amount of water. Material will not burn.

As in any fire, wear a self-contained breathing apparatus in pressure demand, MSHA/NIOSH approved, and full protective gear.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spills of the product are very slippery
 Remove small spills with plenty of water

SECTION 7 – HANDLING AND STORAGE

Handling: Wash thoroughly after handling.
 Storage: Store in a cool, dry place between 4 and 30 °C.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Under normal use, no protective measures are required.
 In the event of a breakage, the following will apply to any liquid released.
 Respiratory Protection: none required.
 Ventilation: none required.
 Protective Gloves: none required.
 Eye Protection: none required.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Colour: Clear
Odour: odourless
pH: Slightly acidic 6.5 (20 g/L (20 °C))
Vapour Pressure: Not available
Viscosity: Not available
Boiling Point: The lowest known value is 100 °C (212 °F) (water).
Freezing/Melting Point: May start to solidify at 0 °C (32 °F) based on data for: water.
Auto ignition Temperature: Not applicable.
Flash Point: Not available
Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available
Decomposition Temperature: Not available
Solubility in water: 20 g/L (20 °C) (caffeine)
Specific Gravity/Density: Approx. 1.00
Molecular Formula: C₈H₁₀N₄O₂ (caffeine), H₂O (water)
Molecular Weight: 194.19 (caffeine), 18.02 (water)

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Light sensitive.
Conditions to Avoid: Incompatible materials, temperatures above 150 °C, direct sunlight.
Incompatibilities with Other Materials: Strong oxidizing agents.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide.
Hazardous Polymerization Will not occur.

SECTION 11 – TOXICOLOGICAL INFORMATION

RTECS#: CAS# 58-08-2: EV6475000
LD50/LC50: RTECS:
CAS# 58-08-2: Oral, mouse: LD50 = 127 mg/kg;
Oral, rabbit: LD50 = 224 mg/kg;
Oral, rat: LD50 = 192 mg/kg;
Other: oral rat LD50 = 355 mg/kg inh rat LC50 = 4.1-4.9 mg/L/4H
Carcinogenicity: Caffeine - IARC: Group 3 (not classifiable)
Other: See actual entry in RTECS for complete information. The toxicological properties have not been fully investigated.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: Fish: Gold orfe: 87 mg/L; 96H; LC50
Daphnia: Daphnia: 182.12 mg/L; 4H; EC50
Other: Not readily biodegradable.
Toxicity to Bacteria: EC10 = 1530 mg/L/17H Log Kow = -0.07 Biodegradability < 20%

SECTION 13 – DISPOSAL CONSIDERATIONS.

Dispose of in a manner consistent with local and regional regulations.

SECTION 14 – TRANSPORT INFORMATION

Land transport ARD/RID and GGVS/GGVE (cross-border/domestic)
ADR/RID-GGVS/E Class: None
Maritime transport IMDG/GGV Sea IMDG/GGV Sea Class: None
Air transport ICAO-TI and IATA-DGR
ICAO/IATA Class: None

SECTION 15 – REGULATORY INFORMATION

European Labeling in Accordance with EC Directives
Hazard Symbols: XN
Risk Phrases:
R 20/22 Harmful by inhalation and if swallowed.
Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37/39 Wear suitable gloves and eye/face protection.
WGK (Water Danger/Protection)
CAS# 58-08-2: 1
Canada
CAS# 58-08-2 is listed on Canada's DSL List
US Federal
TSCA
CAS# 58-08-2 is listed on the TSCA Inventory.

SECTION 16 – GENERAL INFORMATION

Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibilities of such damages.