

# MATERIAL SAFETY DATA SHEET



## HPLC Autosampler Precision Standard

### SECTION 1 – CHEMICAL IDENTIFICATION

HPLC UV Linearity standards, HPLC Autosampler Precision Standard, HPLC UV Wavelength Accuracy – extended Standard

### SECTION 2 – COMPOSITION, INFORMATION ON INGREDIENTS

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

Standard	Concentration in Water
HPLC Autosampler Precision Standard	~30 ppm

### 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

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: Get medical aid if irritation develops or persists. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

### SECTION 5 – FIRE FIGHTING MEASURES

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

Extinguishing

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

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

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### SECTION 7 – HANDLING AND STORAGE

Handling: Wash thoroughly after handling.

Storage: Store in a cool, dry place. Store in a tightly closed container.

### SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 58-08-2:

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Colour: Clear

Odour: odourless

pH: 5.5-6.5 (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: 20g/l (20°C) (caffeine)

Specific Gravity/Density: Not available

Molecular Formula: C<sub>8</sub>H<sub>10</sub>N<sub>4</sub>O<sub>2</sub> (caffeine), H<sub>2</sub>O (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.

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### 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

Contact NLG Analytical for transportation details

### 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

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.