Safety Data Sheet

FlowLogic HA

Version 2.0

Date revised: 5/29/2015

Conforms to regulation (EC) no. EU 453/2010

SECTION 1 – IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name: FlowLogic HA Product Number: SG-BXX-23; SG-BXX-10; SG-BXX-13

1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users.

1.3 Details of the Supplier of the Safety Data Sheet

Supplier

LabLogic Systems, Inc. 1911 N US HWY 301 Suite 140 Tampa FL 33619 USA E-mail: solutions@lablogic.com

1.4 Emergency Telephone Number

Tel: +1 813-626-6848

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H226 – Flammable Liquids (Category 3)

H302 - Acute Toxicity-Oral (Category 4)

H304 – Aspiration Hazard (Category 1)

H315 – Skin Corrosion/Irritation (Category 2)

H319 – Serious Eye Damage/Eye Irritation (Category 2A)

H336 – May cause drowsiness or dizziness

H411 – Chronic Hazards to the Aquatic Environment (Category 2)



2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements









WARNING

H226 - Flammable Liquid and vapour.

H302 - Harmful if swallowed.

H304 – May be fatal if swallowed and enters airways.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H336 – May cause drowsiness or dizziness.

H411 – Toxic to aquatic life with long lasting effects.

P233 – Keep container tightly closed.

P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 – Avoid release to the environment.

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

P331-DO NOT induce vomiting.

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description

Aromatic hydrocarbons and nonionic surfactants with scintillation phosphors.

Component List

Component	% Comp.	CAS#	EC#	1278/2008 Classification
Solvent Naphtha, Light Aromatic	60 - 70	64742-95-6	265-199-0	H226, H304, H315, H336, H411
Primary Alcohol Ethoxylate	5 - 10	68439-46-3	614-482-0	H318
Linear alkyl phenyl ethoxylates	30 - 40	9016-45-9	500-024-6	H315, H319, H411
Butoxy Ethanol	1 - 5	111-76-2	203-905-0	H302, H312, H315, H319, H332

SECTION 4 - FIRST AID MEASURES

4.1 Description of First Aid Measures

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion

DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

Skin

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

Inhalation

Solvent Naphtha, Light Aromatic: Symptoms may include sore throat, coughing, laboured breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. If CNS depression or effects occur, symptoms include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Primary Alcohol Ethoxylate: Sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Linear alkyl phenyl ethoxylates: Discomfort in nose and throat, nasal discharge, coughing, difficulty breathing. **Butoxy Ethanol:** Burning in nose and throat, coughing. Headache, dizziness, drowsiness, fatigue, nausea.

Ingestion

Solvent Naphtha, Light Aromatic: Ingestion symptoms may include salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under Inhalation.

Primary Alcohol Ethoxylate: Salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation."

Linear alkyl phenyl ethoxylates: Abdominal discomfort, nausea, and diarrhea. **Butoxy Ethanol:** Headache, dizziness, drowsiness, fatigue, nausea, vomiting.

Skin

Solvent Naphtha, Light Aromatic: Reddening, itching, and inflammation.

Primary Alcohol Ethoxylate: Drying, reddening, itching, and cracking. Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.

Linear alkyl phenyl ethoxylates: Local redness and swelling.

Butoxy Ethanol: Redness, pain and itching.

Eyes

Solvent Naphtha, Light Aromatic: Irritation, redness, tearing, and blurred vision.

Primary Alcohol Ethoxylate: Redness, tearing, and blurred vision. **Linear alkyl phenyl ethoxylates:** Excess blinking and tear production. Marked redness and swelling of the eye with injury to the cornea.

Butoxy Ethanol: Redness, tearing, and pain.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

5.2 Special Hazards Arising from the Substance/Mixture

Hazardous Combustion Products - Thermal decomposition products may include toxic oxides of nitrogen, sulfur, and carbon.

Hazardous Decomposition Products - Combustion products include hazardous oxides or carbon, nitrogen, and sulfur.

Hazardous Polymeriation – Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

5.3 Advice for Firefighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

5.4 Further Information

No data available.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

Wear appropriate protective equipment as specified in Section 8.

6.2 Environmental Precautions

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

Isolate hazard area and deny entry. Keep ignition sources out of area and shut off all irrigation sources. Absorb spill with inert material (e.g. dry sand or earth) then place in a chemical waste container.

6.4 References to Other Sections

For disposal information, see Section 13. For Protective clothing and equipment, see Section 8.

SECTION 7 – HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Do not eat, drink, or smoke in areas of use or storage.

7.2 Conditions for Safe Storage (including any incompatibles)

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage.

Incompatibles

Solvent Naphtha, Light Aromatic: Oxidizing agents.

Primary Alcohol Ethoxylate: Strong oxidizing agents. Aluminum surfaces at temperatures above 120 degrees.

Linear alkyl phenyl ethoxylates: Oxidizing agents.

Butoxy Ethanol: Strong oxidizing agents. Strong bases and salts of strong bases at elevated temperatures. Aluminum surfaces.

7.3 Specific End Uses

Investigational research by professional users.



SECTION 8 – EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Solvent Naphtha, Light Aromatic **ACGIH Threshold Limit Value (TLV):** 50 ppm

OSHA Permissable Exposure Limit (PEL): None established

Component: Primary Alcohol Ethoxylate

ACGIH Threshold Limit Value (TLV): None established

OSHA Permissable Exposure Limit (PEL): None established

Component: Linear alkyl phenyl ethoxylates

ACGIH Threshold Limit Value (TLV): None established

OSHA Permissable Exposure Limit (PEL): None established

Component: Butoxy Ethanol

ACGIH Threshold Limit Value (TLV): 25 ppm (skin)
OSHA Permissable Exposure Limit (PEL): 25 ppm

8.2 Exposure Controls

Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Respiratory Protection

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection

Wear protective gloves and clean body covering clothing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

α.	Appearance	Clear, colorless liquid	I.	Vapor Density (Air = 1)	4.8
b.	Odor	Slight aromatic	m.	Relative Density	0.92
c.	Odor Threshold	N/A	n.	Water Solubility	50% (V/V)
d.	pH	Neutral	0.	Partition Coefficient	
e.	Melting/Freezing Point (°C)	N/A		n-octanol/water	Mixture
f.	Boiling point (°C)	171	p.	Autoignition Temperature (°C)	865.4 F
g.	Flash Point (°C)	50	q.	Decomposition Temperature (°C)	N/A
h.	Evaporation Rate	< 0.1 Bu-Acetate = 1	r.	Viscosity	3.8 cSt @ 40 C
i.	Flammability	Combustible	s.	Explosive Properties	Volatile
j.	Upper/Lower Flammability				combustible solvent
	or Explosive Limits	N/D	t.	Oxidizing Properties	Not an oxidizer
k.	Vapor Pressure	2.0 mm Hg @ 25 C			

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity

Material can be made to burn; combustion is generally not self-sustaining. Reacts with oxidizers.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage.

10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

10.4 Conditions to Avoid

Heat, sources of ignition.

10.5 Incompatible Materials

Solvent Naphtha, Light Aromatic: Oxidizing agents.

Primary Alcohol Ethoxylate: Strong oxidizing agents. Aluminum surfaces at temperatures above 120 degrees.

Linear alkyl phenyl ethoxylates: Oxidizing agents.

Butoxy Ethanol: Strong oxidizing agents. Strong bases and salts of strong bases at elevated temperatures. Aluminum surfaces.

10.6 Hazardous Decomposition Products

Combustion may produce toxic oxides of carbon and reactive hydrocarbons.

SECTION 11 – TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

4.8 g/kg

Dermal Rabbit LD50 (mg/kg)

No Data

Component Cancer List Status

	NTP Car		
	Known Anticipated I		IARC Category
Solvent Naphtha, Light Aromatic	No	No	3
Primary Alcohol Ethoxylate	No	No	None
Linear alkyl phenyl ethoxylates	No	No	None
Butoxy Ethanol	No	No	None

Potential Health Effects

Inhalation

Solvent Naphtha, Light Aromatic – SLIGHTLY TOXIC. Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs. May cause central nervous system despression or effects. May cause cardiac sensitisation, including arrhythmias (irregular heart beats) and death due to cardiac arrest. Chronic exposure to high doses may damage the peripheral nerves, resulting in numbness or tingling in the extremities. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

Primary Alcohol Ethoxylate – Information not found.

Linear alkyl phenyl ethoxylates – Vapors or mist, expecially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may be irritating and cause discomfort in nose and throat. Prolonged exposure may cause difficulty breathing.

Butoxy Ethanol – Vapors may cause irritation to the nose, throat, and respiratory tract and are toxic if inhaled.

Ingestion

Solvent Naphtha, Light Aromatic – MODERATELY TOXIC. May cause irritation of the mouth, throat, and gastrointestinal tract. Aspiration into lungs may cause chemical pneumonia and lung damage. Aspiration symptoms may be delayed in onset by up to 24 hours. Exposure may also cause central nervous systems symptoms similar to those listed under Signs and Symptoms of Overexposure - Inhalation. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

Primary Alcohol Ethoxylate – Moderately toxic by ingestion.

Linear alkyl phenyl ethoxylates – May be harmful by ingestion.

Butoxy Ethanol – Moderately toxic if ingested.

Skin

Solvent Naphtha, Light Aromatic – SLIGHTLY IRRITATING. Contact may cause reddening, itching and inflammation. Repeated or prolonged skin contact may cause reddening, itching and inflammation. Defatting agent.

Primary Alcohol Ethoxylate – Severely irritating to the skin and moderately toxic if absorbed through the skin.

Linear alkyl phenyl ethoxylates – Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort.

Butoxy Ethanol – Product is mildly irritating to the skin and toxic if absorbed through the skin.

Eves

Solvent Naphtha, Light Aromatic – SLIGHTLY IRRITATING. Exposure to vapours, fumes or mists may cause irritation. Direct contact may cause irritation, redness, tearing, and blurred vision. Prolonged or repeated exposure may cause irritation and conjunctivitis.

Primary Alcohol Ethoxylate – Severely irritating to the eyes.

Linear alkyl phenyl ethoxylates – Causes irritation and possible injury to the cornea.

Butoxy Ethanol – Causes severe eye irritation.

Carcinogenicity

Solvent Naphtha, Light Aromatic – Benzene, a known carcinogen, may be present in trace amounts, less than 50 ppm. Otherwise, there are no known or anticipated carcinogens present in Naphtha.

Primary Alcohol Ethoxylate – No information available.

Linear alkyl phenyl ethoxylates – Not listed by NTP or IARC as a known or possible carcinogen.

Butoxy Ethanol – Not listed as a known or anticipated carcinogen by NTP or IARC.

Mutagenicity

Solvent Naphtha, Light Aromatic – No information available.

Primary Alcohol Ethoxylate – No information available.

Linear alkyl phenyl ethoxylates – No information available.

Butoxy Ethanol – No information found.

Reproductive Toxicity

Solvent Naphtha, Light Aromatic – This product contains components which may cause severe adverse reproductive effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

Primary Alcohol Ethoxylate – No information available.

Linear alkyl phenyl ethoxylates – No information available.

Butoxy Ethanol – Inhalation exposure of pregnant rabbits caused some lethality to the dam and fetus at 200 ppm, but there were no effects at 100 ppm and below. Inhalation exposure to pregnant rats caused irritancy to the dams and related fetotoxicity at 200 and 100 ppm, but there were no effects at 50 ppm and below.

Teratogenic Effects

Solvent Naphtha, Light Aromatic – This product contains components which may cause severe adverse reproductive effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

Primary Alcohol Ethoxylate – No information available.

Linear alkyl phenyl ethoxylates – No information available.

Butoxy Ethanol – Has not been shown to cause birth defects.

Routes of Entry

Solvent Naphtha, Light Aromatic – Ingestion, inhalation, skin contact.

Primary Alcohol Ethoxylate – Inhalation, ingestion, skin contact.

Linear alkyl phenyl ethoxylates – Ingestion, inhalation.

Butoxy Ethanol – Inhalation, ingestion, skin contact.

Target Organ Statement

Solvent Naphtha, Light Aromatic – Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, spleen, adrenals, thymus and central nervous system. Pre-exisiting medical conditions which may be aggravated by exposure include disorders of the skin, kidney, liver, cardiovascular and respiratory systems.

Primary Alcohol Ethoxylate – No information available.

Linear alkyl phenyl ethoxylates – No information available.

Butoxy Ethanol – Pre-existing skin, eye, and lung disorders may be aggravated by exposure.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

COMPONENT: Solvent Naphtha, Light Aromatic

	Vetebrates	Invertebrates	Algαe	Micro-organisms
Aquatic Toxicity (ppm unless otherwise noted)	LL50 (96 hr, fathead minnow 8.2 mg/l	EL50 (48 hr, daphina) 4.5 mg/l	EL50 3.1 mg/l	EL50 15 mg/l

	Birds	Anthropods	Plants	Micro-organisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	PNEC 0.4 - 20 mg/l	PNEC 0.4 - 20 mg/l	PNEC 0.4 - 20 mg/l

COMPONENT: Primary Alcohol Ethoxylate

	Vetebrates	Invertebrates	Algαe	Micro-organisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Primary Alcohol Ethoxylate

No data
١

	Birds	Anthropods	Plants	Micro-organisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Linear alykyl phenyl ethoxylates

	Vetebrates	Invertebrates	Algαe	Micro-organisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	LC50 (48 hrs daphnia) 1.821 mg/L	EC50 (48 hrs) 20 mg/L	No data

	Birds	Anthropods	Plants	Micro-organisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

COMPONENT: Butoxy Ethanol

	Vetebrates	Invertebrates	Algαe	Micro-organisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96 hr, trout) 1464 mg/L	LC50 (48 hrs daphnia) 1800 mg/L	EC50 (72 hrs) 911 mg/L	Toxicity Threshold 483 mg/L

	Birds	Anthropods	Plants	Micro-organisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

12.2 Persistence and Degradability

Solvent Naphtha, Light Aromatic – Inherently biodegradeable: 74% elimination in 28 days

Primary Alcohol Ethoxylate – No data

Linear alkyl phenyl ethoxylates – Readily biodegradable >97% elimination in 30 days

Butoxy Ethanol – Readily biodegradable (90% in 28 days)

12.3 Bioaccumulative Potential

Solvent Naphtha, Light Aromatic – No data Primary Alcohol Ethoxylate – No data Linear alkyl phenyl ethoxylates – No data Butoxy Ethanol – No data

12.4 Mobility in Soil

Solvent Naphtha, Light Aromatic – log Koc ~2 Primary Alcohol Ethoxylate – No data Linear alkyl phenyl ethoxylates – No data Butoxy Ethanol – No data

12.5 Results of PBT and vPvB Assessment

Solvent Naphtha, Light Aromatic - Not PBT/vPvB

Primary Alcohol Ethoxylate – No data

Linear alkyl phenyl ethoxylates – Substance is PBT / vPvB **Butoxy Ethanol** – Not PBT/vPvB

12.6 Other Adverse Effects

Solvent Naphtha, Light Aromatic – None Primary Alcohol Ethoxylate – None Linear alkyl phenyl ethoxylates – None Butoxy Ethanol – None

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

SECTION 14 - TRANSPORT INFORMATION

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	1268	1268	1268	N/A
14.2 Shipping Name	Petroleum Products N.O.S.	Petroleum Products N.O.S.	Petroleum Products N.O.S.	Not regulated
14.3 Hazard Class	3	3	3	N/A
14.4 Packing Group	III	III	III	N/A
14.5 Environmental Hazards	N/A	N/A	Marine pollutant	N/A
14.6 Special Precautions	N/A	N/A	N/A	N/A

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture

United States

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Solvent Naphtha, Light Aromatic	Yes	No	No	Yes	Yes
Primary Alcohol Ethoxylate	No	No	No	Yes	No
Linear alkyl phenyl ethoxylates	No	No	No	Yes	No
Butoxy Ethanol	Yes	No	No	Yes	No

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 16 - OTHER INFORMATION

Revisional Updates

29/05/2015 – Updated Sections 2.1 and 3.2 05/08/2013 – Released Version 1.0

NFPA Codes

Health 1 Flammability 2 Reactivity 0

Dangers

Solvent Naphtha, Light Aromatic

H226 - Flammable liquid and vapour.

H304 – May be fatal if swallowed and enters airways.

H315 – Causes skin irritation.

H336 – May cause drowsiness or dizziness.

H411 – Toxic to aquatic life with long lasting effects.

Primary Alcohol Ethoxylate

H318 – Causes serious eye damage.

Linear alkyl phenyl ethoxylates

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H411 – Toxic to aquatic life with long lasting effects.

Butoxy Ethanol

H302 – Harmful if swallowed

H312 – Harmful in contact with skin.

H315 – Causes skin irritation.

H319 – Causes serious eye irritation.

H332 - Harmful if inhaled.

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending licence under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

USA & Canada LabLogic Systems, Inc.

1911 N US HWY 301, Suite 140 Tampa, FL 33619, USA E-mail: solutions@lablogic.com

Tel: +1-813-626-6848 Fax: +1-813-620-3708 www.lablogic.com

SOAR NOTES OF THE PROPERTY OF

Europe & Worldwide LabLogic Systems Limited

Paradigm House, 3 Melbourne Avenue Broomhill, Sheffield, S10 2QJ, UK E-mail: solutions@lablogic.com Tel: +44 (0)114 266 7267 Fax: +44 (0)114 266 3944 www.lablogic.com



