(MAN) BALKAMP

SAFETY DATA SHEET

1. Identification

Product identifier Liquid Hardener

Other means of identification

Product Code 765-1281

Recommended use Liquid Hardener, Polymer Reaction Catalyst

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Balkamp, Inc.

Address 2601 South Holt Road

Indianapolis, Indiana 46241

United States

Telephone Information 1-800-468-6832

E-mail msds@balkamp.com

Contact person Stephanie Pruitt

Emergency phone number Emergency 1-317-244-7241

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3

Organic peroxides Type D

Health hazards Acute toxicity, oral Category 4

Acute toxicity, inhalation Category 2
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, repeated Category 2

exposure

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Flammable liquid and vapor. Heating may cause a fire. Harmful if swallowed. Causes severe skin

burns and eye damage. Causes serious eye damage. Fatal if inhaled. May cause damage to

organs through prolonged or repeated exposure.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep/Store away from

clothing and other combustible materials. Keep container tightly closed. Keep only in original

container. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary

measures against static discharge. Do not breathe vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all

contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). Wash contaminated clothing before

reuse. In case of fire: Use appropriate media to extinguish.

Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. **Storage**

Keep cool. Store locked up. Protect from sunlight. Store at temperatures not exceeding 25°C /

77°F. Keep cool. Store away from other materials.

Disposal

Hazard(s) not otherwise classified (HNOC)

Dispose of contents/container in accordance with local/regional/national/international regulations. None known.

Supplemental information

63% of the mixture consists of component(s) of unknown acute oral toxicity. 64.5% of the mixture

consists of component(s) of unknown acute inhalation toxicity.

3. Composition/information on ingredients

Mixtures

Chemical name	Chemical name Common name and synonyms		%	
2-Butanone peroxide		1338-23-4	30 to <40	
2-butanone		78-93-3	1 to <5	
Hydrogen peroxide		7722-84-1	1 to <5	
Other components below repo	ortable levels		60 to <70	

^{*}Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or

artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.

Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or Skin contact

poison control center immediately. Chemical burns must be treated by a physician. Wash

contaminated clothing before reuse.

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if Eye contact present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If

vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delaved

Ingestion

Nausea, vomiting. Abdominal pain. Diarrhea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Coughing. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing

media

Specific hazards arising from the chemical

Special protective equipment and precautions for firefighters

equipment/instructions

Water fog. Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO2).

Do not use water jet as an extinguisher, as this will spread the fire.

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do Fire fighting so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Flammable liquid and vapor. Heating may cause a fire.

Material name: Liquid Hardener SDS US

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

Environmental precautions

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Keep away from clothing and other combustible materials. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Keep only in the original container. Store in a well-ventilated place. Store away from other materials. Keep in an area equipped with sprinklers.

Value

8. Exposure controls/personal protection

Occupational exposure limits

Components

Typo

Components	туре	value	
2-butanone (CAS 78-93-3)	PEL	590 mg/m3	
,		200 ppm	
Hydrogen peroxide (CAS 7722-84-1)	PEL	1.4 mg/m3	
		1 ppm	
US. ACGIH Threshold Limit Value	S		
Components	Туре	Value	
2-butanone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
2-Butanone peroxide (CAS 1338-23-4)	Ceiling	0.2 ppm	
Hydrogen peroxide (CAS 7722-84-1)	TWA	1 ppm	
US. NIOSH: Pocket Guide to Cher	nical Hazards		
Components	Туре	Value	
2-butanone (CAS 78-93-3)	STEL	885 mg/m3	
,		300 ppm	
	TWA	590 mg/m3	
		200 ppm	
	IVVA	<u> </u>	

Material name: Liquid Hardener

SDS US

765-1281 Version #: 01 Issue date: 12-18-2015

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Туре	Value	
2-Butanone peroxide (CAS 1338-23-4)	Ceiling	1.5 mg/m3	
•		0.2 ppm	
Hydrogen peroxide (CAS 7722-84-1)	TWA	1.4 mg/m3	
,		1 ppm	

Biological limit values

ACGIH	Biological	Exposure	Indices

Components	Value	Determinant	Specimen	Sampling Time
2-butanone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

^{* -} For sampling details, please see the source document.

Appropriate engineering

controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove

supplier.

Other Wear appropriate chemical resistant clothing.

Respiratory protection Wear positive pressure self-contained breathing apparatus (SCBA).

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.
Form Liquid.
Color Not available.
Odor Not available.
Odor threshold Not available.
PH Not available.
Melting point/freezing point Not available.

Initial boiling point and boiling

range

66.2 °F (19 °C) estimated

Flash point 140.0 °F (60.0 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

Not available.

(%)

Flammability limit - upper

Not available.

(%)

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure0.04 hPa estimatedVapor densityNot available.

765-1281 Version #: 01 Issue date: 12-18-2015

Material name: Liquid Hardener SDS US

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperature140 °F (60 °C)ViscosityNot available.

Other information

Density 8.32 lbs/gal
Explosive properties Not explosive.

Flammability class Combustible IIIA estimated

Oxidizing properties Not oxidizing.

Percent volatile 2.5 % estimated

Specific gravity 1

VOC 2.5 % estimated

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Sunlight. Avoid temperatures

exceeding the decomposition temperature. Avoid temperatures exceeding the flash point. Contact

with incompatible materials.

Incompatible materials Strong oxidizing agents. Combustible material.

Hazardous decomposition

products

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Fatal if inhaled. May cause damage to organs through prolonged or repeated exposure by

inhalation.

Skin contact Causes severe skin burns.

Eye contact Causes serious eye damage.

Ingestion Causes digestive tract burns. Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Nausea, vomiting. Abdominal pain. Diarrhea. Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and

blurred vision. Permanent eye damage including blindness could result. Coughing.

Information on toxicological effects

Acute toxicity Fatal if inhaled. Harmful if swallowed.

Components	Species	Test Results	
2-butanone (CAS 78-93-3)			
<u>Acute</u>			
Dermal			
LD50	Rabbit	> 8000 mg/kg	
Inhalation			
LC50	Mouse	11000 ppm, 45 Minutes	
	Rat	11700 ppm, 4 Hours	
Oral			
LD50	Mouse	670 mg/kg	
	Rat	2300 - 3500 mg/kg	

Components Species Test Results

2-Butanone peroxide (CAS 1338-23-4)

<u>Acute</u>

Inhalation

LC50 Mouse 170 mg/l, 4 Hours

Rat 200 mg/l, 4 Hours

Oral

LD50 Rat 6.86 ml/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye

Causes serious eye damage.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hydrogen peroxide (CAS 7722-84-1) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - Not

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Not an aspiration hazard.

Chronic effects May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may

be harmful.

12. Ecological information

EcotoxicityThe product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
2-butanone (CAS 78-9	93-3)		
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours

^{*} Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2-butanone 0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

^{*} Estimates for product may be based on additional component data not shown.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of

contents/container in accordance with local/regional/national/international regulations.

Dispose in accordance with all applicable regulations. Local disposal regulations

The waste code should be assigned in discussion between the user, the producer and the waste Hazardous waste code

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is

Organic Peroxide Type D, Liquid (Methyl Ethyl Ketone Peroxide <45%)

Organic Peroxide Type D, Liquid (Methyl Ethyl Ketone Peroxide <45%)

emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN3105

UN proper shipping name

Transport hazard class(es)

5.2 Class

Subsidiary risk Packing group Not applicable.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Packaging exceptions 152

IATA

UN number UN3105

Organic Peroxide Type D, Liquid (Methyl Ethyl Ketone Peroxide <45%) UN proper shipping name

Transport hazard class(es)

Class 5.2 Subsidiary risk

Packing group Not applicable.

Environmental hazards

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Allowed with restrictions.

Not established.

Other information

Passenger and cargo

aircraft

Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN3105

UN proper shipping name Transport hazard class(es)

Class 5.2 Subsidiary risk

Not applicable. Packing group

Environmental hazards

Marine pollutant No. F-J. S-R **EmS**

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and

the IBC Code

Material name: Liquid Hardener

765-1281 Version #: 01 Issue date: 12-18-2015

DOT; IATA



IMDG



15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-butanone (CAS 78-93-3) Listed. 2-Butanone peroxide (CAS 1338-23-4) Listed.

SARA 304 Emergency release notification

Hydrogen peroxide (CAS 7722-84-1) 1000 LBS OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - Yes

SARA 302 Extremely hazardous substance

Reportable **Chemical name CAS** number **Threshold** Threshold **Threshold** quantity planning quantity planning quantity, planning quantity, lower value upper value Hydrogen peroxide 7722-84-1 1000 1000 lbs

SARA 311/312 Hazardous No

chemical

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act Not regulated.

(SDWA)

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

2-butanone (CAS 78-93-3) 6714

Material name: Liquid Hardener 765-1281 Version #: 01 Issue date: 12-18-2015

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

2-butanone (CAS 78-93-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

2-butanone (CAS 78-93-3) 6714

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

2-butanone (CAS 78-93-3) Low priority

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd.

(a))

2-butanone (CAS 78-93-3)

US. Massachusetts RTK - Substance List

2-butanone (CAS 78-93-3)

2-Butanone peroxide (CAS 1338-23-4) Hydrogen peroxide (CAS 7722-84-1)

US. New Jersey Worker and Community Right-to-Know Act

2-butanone (CAS 78-93-3)

2-Butanone peroxide (CAS 1338-23-4) Hydrogen peroxide (CAS 7722-84-1)

US. Pennsylvania Worker and Community Right-to-Know Law

2-butanone (CAS 78-93-3)

2-Butanone peroxide (CAS 1338-23-4) Hydrogen peroxide (CAS 7722-84-1)

US. Rhode Island RTK

2-butanone (CAS 78-93-3)

2-Butanone peroxide (CAS 1338-23-4) Hydrogen peroxide (CAS 7722-84-1)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

^{*}A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date 12-18-2015

Version # 01

HMIS® ratings Health: 4*

Flammability: 3 Physical hazard: 3

NFPA ratings Health: 4

Flammability: 3 Instability: 3

765-1281 Version #: 01 Issue date: 12-18-2015

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA BELIEVED TO BE RELIABLE AND THE MANUFACTURER DISCLAIMS ANY LIABILITY INCURRED FROM THE USE OR RELIANCE UPON THE SAME. THE INFORMATION GIVEN IS DESIGNED ONLY AS A GUIDANCE FOR SAFE HANDLING, USE, PROCESSING, STORAGE, TRANSPORTATION, DISPOSAL AND RELEASE AND IS NOT TO BE CONSIDERED A WARRANTY OR QUALITY SPECIFICATION. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety information is not a license to use this material as claimed by any patents of third parties. The user alone must finally determine whether a contemplated use of this material will infringe any such patents, and for obtaining any required licenses.