SAFETY DATA SHEET

1. Identification

Product number AU03A

Product identifier BATTERY TERMINAL KLEANER & PROTECTOR

Company information K-CHEM INC.

P. O. Box 530632

Birmingham, AL 35253 United States

Company phone General Assistance 205-592-0844

Emergency telephone US 1-800-255-3924 Emergency telephone outside 1-813-248-0585

US

Version # 09
Recommended use Cleaner
Recommended restrictions None known.

2. Hazard(s) identification

Physical hazards Flammable aerosols Category 1

Health hazards Not classified.
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Extremely flammable aerosol.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open

flame or other ignition source. Pressurized container: Do not pierce or burn, even after use.

Response Wash hands after handling.

Storage Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

Disposal Dispose of waste and residues in accordance with local authority

Hazard(s) not otherwise

classified (HNOC)

requirements. None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Butane		106-97-8	2.5 - 10
Sodium Bicarbonate		144-55-8	2.5 - 10
2-Butoxyethanol		111-76-2	1 - 2.5
Propane		74-98-6	1 - 2.5
Ammonium Hydroxide		1336-21-6	0.1 - 1
Other components below reportable level	9		90 - 100

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

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4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical

attention if irritation develops and persists.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses,

if present and easy to do. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and

delayed

Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media

Unsuitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

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

Specific hazards arising from the chemical

Contents under pressure. Pressurized container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SČBA.

Fire-fighting equipment/instructions Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. In the event of fire and/or explosion

do not breathe fumes.

General fire hazards

Extremely flammable aerosol.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. 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 Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Prevent entry into waterways, sewer, basements or confined areas. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not re-use empty containers. Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Level 1 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Store in a well-ventilated place. Refrigeration recommended. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

Components	Туре	Value	
2-Butoxyethanol (CAS 111-76-2)	PEL	240 mg/m3	
,		50 ppm	
Propane (CAS 74-98-6)	PEL	1800 mg/m3	
		1000 ppm	
US. ACGIH Threshold Limit Valu	ies		
Components	Туре	Value	
2-Butoxyethanol (CAS 111-76-2)	TWA	20 ppm	
Butane (CAS 106-97-8)	STEL	1000 ppm	
US. NIOSH: Pocket Guide to Che	emical Hazards		
Components	Туре	Value	
2-Butoxyethanol (CAS 111-76-2)	TWA	24 mg/m3	
		5 ppm	
Butane (CAS 106-97-8)	TWA	1900 mg/m3	
		800 ppm	
Propane (CAS 74-98-6)	TWA	1800 mg/m3	
		1000 ppm	

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-Butoxyethanol (CAS 111-76-2)	200 mg/g	Butoxyacetic acid (BAA),	Creatinine in urine	*
		with hydrolysis		

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

Exposure guidelines

US - California OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-Butoxyethanol (CAS 111-76-2) Skin designation applies.

US - Tennesse OELs: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2-Butoxyethanol (CAS 111-76-2) Can be absorbed through the skin.

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.

Individual protection measures, such as personal protective equipment

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

Hand protection Wear appropriate chemical resistant gloves.

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Skin protection

Other Wear suitable protective clothing.

Respiratory protection If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an

air-supplied respirator.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. 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 Gas.
Form Aerosol.
Color orange
Odor ammoniacal
Odor threshold Not available.
PH Not available.
Melting point/freezing point Not available.

Initial boiling point and boiling

212 °F (100 °C) estimated

range

Flash point -156.0 °F (-104.4 °C) Propellant estimated

Evaporation rate Not available.

Flammability (solid, gas) Not available.

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 pressure 50 psig @70F estimated

Vapor densityNot available.Relative densityNot available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient Not available.

(n-octanol/water)

Auto-ignition temperatureNot available.Decomposition temperatureNot available.ViscosityNot available.

Other information

Specific gravity 0.99 estimated

10. Stability and reactivity

ReactivityThe 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

reactions

No dangerous reaction known under conditions of normal use. Hazardous polymerization does

not occur.

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

flash point. Contact with incompatible materials. Fire or intense heat may cause violent rupture of

packages.

Incompatible materials Strong oxidizing agents.

SDS US

11. Toxicological information

Information on likely routes of exposure

Ingestion Expected to be a low ingestion hazard. Prolonged inhalation may be harmful. Inhalation

Skin contact No adverse effects due to skin contact are expected.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and

prolonged. These effects have not been observed in humans.

Eye contact Direct contact with eyes may cause temporary irritation. Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity Expected to be a low hazard for usual industrial or commercial handling by trained personnel

Acute toxicity	Expected to be a low hazard for usual industrial or commercial handling by trained personnel.		
Product	Species	Test Results	
18 OZ BATTERY TERM &	CLNR PROT12PK (CAS Mixture)		
Acute			
Dermal			
LD50	Guinea pig	11332.8408 ml/kg, 24 Hours estimated	
		359.6945 ml/kg, 4 Days estimated	
	Rabbit	15923.0293 mg/kg estimated	
		6105.5503 ml/kg estimated	
	Rat	94397.6328 mg/kg estimated	
Inhalation			
LC100	Cat	2250 % estimated	
LC50	Guinea pig	41666.668 mg/m3, 2 Hours estimated	
	Mouse	62500 mg/m3, 2 Hours estimated	
		30925 mg/l, 120 Minutes estimated	
		1300 %, 120 Minutes estimated	
		400.0001 mm/l, 2 Hours estimated	
	Rabbit	19709.2871 ppm, 7 Hours estimated	
	Rat	23529.4219 mg/l, 4 Hours estimated	
		20759.166 ppm, 4 Hours estimated	
		12749.0313 mg/l/4h estimated	
		8741.7559 mg/l, If <1L: Consumer Commodity Hours estimated	
		119.7917 mg/l, 2 hours estimated	
Oral			
LD100	Rabbit	34244.8867 mg/kg estimated	
LD50	Dog	34244.8867 mg/kg estimated	
	Guinea pig	59127.8633 mg/kg estimated	
	Rat	17752.4043 mg/kg estimated	
Components	Species	Test Results	

Dermal

LD50 230 ml/kg, 24 Hours Guinea pig

Components	Species	Test Results
		7.3 ml/kg, 4 Days
	Rabbit	450 ml/kg, 24 Hours
		435 mg/kg, 24 Hours
		0.63 ml/kg
	Rat	> 2000 mg/kg, 24 Hours
Inhalation		
LC50	Rabbit	400 ppm, 7 Hours
	Rat	450 ppm, 4 Hours
Oral		
LD100	Rabbit	695 mg/kg
LD50	Dog	> 695 mg/kg
	Guinea pig	1200 mg/kg
	Rat	530 - 2800 mg/kg
Butane (CAS 106-97-8)		0 0
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Mouse	1237 mg/l, 120 Minutes
		52 %, 120 Minutes
	Rat	1355 mg/l
		658 mg/l/4h
Sodium Bicarbonate (CAS 1	44-55-8)	
Acute		
Oral		
LD50	Rat	> 4000 mg/kg

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

Skin corrosion/irritationProlonged skin contact may cause temporary irritation.Serious eye damage/eyeDirect contact with eyes may cause temporary irritation.

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

2-Butoxyethanol (CAS 111-76-2) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

Specific target organ toxicity -

single exposure

Not classified.

Specific target organ toxicity -

repeated exposure

Not classified.

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Aspiration hazard

Not an aspiration hazard. Not likely, due to the form of the product.

Chronic effects

Prolonged inhalation may be harmful. May be harmful if absorbed through skin.

2-Butoxy ethanol may be absorbed through the skin in toxic amounts if contact is repeated and prolonged. These effects have not been observed in humans.

12. Ecological information

Ecotoxicity

The 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.

Product		Species	Test Results
18 OZ BATTERY TER	RM & CLNR PROT	12PK (CAS Mixture)	
Aquatic			
Algae	IC50	Algae	16284.5547 mg/L, 72 Hours estimated
Crustacea	EC50	Daphnia	554.8757 mg/l, 48 hours estimated
Fish	LC50	Fish	1424.9493 mg/l, 96 hours estimated
Components		Species	Test Results
2-Butoxyethanol (CAS	3 111-76-2)		
Aquatic			
Fish	LC50	Inland silverside (Menidiaberyllina)	1250 mg/l, 96 hours
Ammonium Hydroxide	(CAS 1336-21-6)		
Aquatic			
Crustacea	EC50	Daphnia	0.66 mg/L, 48 Hours
Fish	LC50	Western mosquitofish (Gambusiaaffinis)	15 mg/l, 96 hours
Sodium Bicarbonate (CAS 144-55-8)		
Aquatic			
Crustacea	EC50	Daphnia	2350 mg/L, 48 Hours
Fish	LC50	Western mosquitofish (Gambusiaaffinis)	7550 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 No data available.

Partition coefficient n-octanol / water (log Kow)

2-Butoxyethanol 0.83 Butane 2.89 Propane 2.36

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.

13. Disposal considerations

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

under pressure. Do not puncture, incinerate or crush. Dispose of contents/container in accordance

with local/regional/national/international regulations.

Local disposal regulations Hazardous waste code

Dispose in accordance with all applicable regulations.

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

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

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

is emptied. Do not re-use empty containers.

Product name: BATTERY TERMINAL KLEANER &PROTECTOR

14. Transport information

DOT

UN1950 **UN** number

UN proper shipping name Aerosols, flammable

Transport hazard class(es)

Class 2.1 Subsidiary risk Label(s) None

Not applicable. **Packing group**

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

instructions, SDS and emergency procedures before handling.

Special provisions N82 Packaging exceptions 306 None Packaging non bulk Packaging bulk None

This product meets the exception requirements of section 173.306 as a limited quantity and may be shipped as a limited quantity. Until 12/31/2020, the "Consumer Commodity - ORM-D" marking may still be used in place of the new limited quantity diamond mark for packages of UN 1950 Aerosols. Limited quantities require the limited quantity diamond mark on cartons after 12/31/20 and may be used now in place of the "Consumer Commodity ORM-D" marking and both may be displayed concurrently.

IATA

UN1950 **UN** number

UN proper shipping name Transport hazard class(es) Aerosols, flammable

2.1 Class Subsidiary risk Label(s) Packing

None group Environmental hazards

Not applicable. **ERG Code**

No.

Special precautions for user 10L

Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo

Allowed. aircraft

Cargo aircraft only

Allowed. **Packaging Exceptions** LTD QTY **IMDG**

UN number

UN1950 **UN** proper shipping name **AEROSOLS** Transport hazard class(es)

Class Subsidiary risk 2.1 Label(s) Packing group Environmental hazards None

Marine pollutant EmS Not applicable.

Special precautions for user

No.

Packaging Exceptions Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

Read safety instructions, SDS and emergency procedures before handling. Read safety

instructions, SDS and emergency procedures before handling.

LTD QTY Not applicable.

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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.

All components are on the U.S. EPA TSCA Inventory List.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ammonium Hydroxide (CAS 1336-21-6)

Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No

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

SARA 302 Extremely hazardous substance

Chemical name CAS number Reportable Threshold Threshold Threshold quantity planning quantity planning quantity, lower value upper value

Formaldehyde 50-00-0 100 500 lbs

SARA 311/312 Hazardous No

chemical

SARA 313 (TRI reporting)

 Chemical name
 CAS number
 % by wt.

 Formaldehyde
 50-00-0
 0.01 - 0.1

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)

Butane (CAS 106-97-8) Propane (CAS 74-98-6)

Safe Drinking Water Act Not

Not regulated.

(SDWA)

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US state regulations

US. Massachusetts RTK - Substance List

2-Butoxyethanol (CAS 111-76-2) Ammonium Hydroxide (CAS 1336-21-

6) Butane (CAS 106-97-8) Propane (CAS 74-98-6)

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

2-Butoxyethanol (CAS 111-76-2) Ammonium Hydroxide (CAS 1336-21-

6) Butane (CAS 106-97-8) Propane (CAS 74-98-6)

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

2-Butoxyethanol (CAS 111-76-2) Ammonium Hydroxide (CAS 1336-21-6) Butane (CAS 106-97-8)

Propane (CAS 74-98-6)

US. Rhode Island RTK

Ammonium Hydroxide (CAS 1336-21-6) Butane (CAS 106-97-8) Propane (CAS 74-98-6)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Diethanolamine (CAS 111-42-2)

Formaldehyde (CAS 50-00-0)

Listed: June 22, 2012

Listed: January 1, 1988

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

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

Toxic Substances Control Act (TSCA) Inventory

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

Issue date 12-18-2014

Version # 09

United States & Puerto Rico

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge,

information and belief at the date of its publication. 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.

SDS US

Yes

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).