



SAFETY DATA SHEET

Linx Clear security ink 3160

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Linx Clear security ink 3160
Product number 3160

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Printing ink.

1.3. Details of the supplier of the safety data sheet

Supplier Linx Printing Technologies Ltd
Linx House
8 Stocks Bridge Way
Compass Point Business Park
ST IVES
Cambridgeshire PE27 5JL
UK
T: +44 (0)1480 302100 Mon-Fri 9am-5pm
F: +44 (0)1480 302116
E-mail: SDS@Linx.co.uk Web: www.linxglobal.com

1.4. Emergency telephone number

Emergency telephone 24HR: (+1)-352-323-3500; USA 1-800-535-5053

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 2 - H225
Health hazards Eye Irrit. 2 - H319 STOT SE 3 - H336
Environmental hazards Not Classified

2.2. Label elements

Hazard pictograms



Signal word Danger

Hazard statements H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

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Precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P313 Get medical advice/ attention.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
Supplemental label information	EUH066 Repeated exposure may cause skin dryness or cracking.
Contains	ACETONE
Supplementary precautionary statements	<p>P240 Ground and bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical equipment.</p> <p>P242 Use non-sparking tools.</p> <p>P243 Take action to prevent static discharges.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P312 Call a POISON CENTRE/doctor if you feel unwell.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p> <p>P370+P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P403+P235 Store in a well-ventilated place. Keep cool.</p> <p>P405 Store locked up.</p>

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ACETONE		40-60%
CAS number: 67-64-1	EC number: 200-662-2	REACH registration number: 01-2119471330-49-XXXX
Classification		
Flam. Liq. 2 - H225		
Eye Irrit. 2 - H319		
STOT SE 3 - H336		
ETHANOL		40-60%
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX
Classification		
Flam. Liq. 2 - H225		
Eye Irrit. 2 - H319		

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TETRABUTYLAMMONIUM BROMIDE	1-5%
CAS number: 1643-19-2	EC number: 216-699-2
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. Never give anything by mouth to an unconscious person.
Inhalation	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. Get medical attention immediately.
Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention immediately.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure. See Section 11 for additional information on health hazards.
Inhalation	Vapours may cause headache, fatigue, dizziness and nausea. Irritation of nose, throat and airway.
Ingestion	May cause stomach pain or vomiting.
Skin contact	Prolonged contact may cause redness, irritation and dry skin.
Eye contact	May cause temporary eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	If in doubt, get medical attention promptly. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Alcohol-resistant foam. Carbon dioxide (CO ₂). Water spray, fog or mist. Powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

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Specific hazards	The product is highly flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.
Hazardous combustion products	Oxides of carbon. Oxides of nitrogen.
5.3. Advice for firefighters	
Protective actions during firefighting	Control run-off water by containing and keeping it out of sewers and watercourses. Containers close to fire should be removed or cooled with water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours. Provide adequate ventilation. Use suitable respiratory protection if ventilation is inadequate.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Use appropriate containment to avoid environmental contamination.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Small Spillages: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Contain and absorb spillage with sand, earth or other non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Collect and place in suitable waste disposal containers and seal securely.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Vapours may accumulate on the floor and in low-lying areas. Contaminated rags and cloths must be put in fireproof containers for disposal.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Keep away from oxidising materials, heat and flames. Store in tightly-closed, original container in a dry, cool and well-ventilated place.
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Storage class	Flammable liquid storage.
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7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

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Occupational exposure limits

ACETONE

Long-term exposure limit (8-hour TWA): WEL 500 ppm 1210 mg/m³

Short-term exposure limit (15-minute): WEL 1500 ppm 3620 mg/m³

ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³

WEL = Workplace Exposure Limit

ACETONE (CAS: 67-64-1)

DNEL	Workers - Dermal; Long term : 186 mg/kg/day Workers - Inhalation; Short term : 2420 mg/m ³ Workers - Inhalation; Long term : 1210 mg/m ³
PNEC	Fresh water; 10.6 mg/l marine water; 1.06 mg/l Sediment (Freshwater); 30.4 mg/kg Sediment (Marinewater); 3.04 mg/kg Soil; 33.3 mg/kg Intermittent release; 21 mg/l STP; 100 mg/l

ETHANOL (CAS: 64-17-5)

DNEL	Workers - Dermal; Long term : 343 mg/kg Workers - Inhalation; Short term local effects: 1900 mg/m ³ Workers - Inhalation; Long term : 950 mg/m ³
PNEC	Fresh water; 0.96 mg/l marine water; 0.79 mg/l Sediment (Freshwater); 3.6 mg/kg Soil; 0.63 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

Wear chemical splash goggles.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. For exposure up to 4 hours, wear gloves made of the following material: Butyl rubber. It should be noted that liquid may penetrate the gloves. Frequent changes are recommended. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

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Hygiene measures	Use engineering controls to reduce air contamination to permissible exposure level. Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Gas filter, type AX.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Colourless liquid.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Melting point	-95°C
Initial boiling point and range	56 - 78°C @ 760 mm Hg
Flash point	-18°C Closed cup.
Evaporation rate	> BuAc (BuAc=1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 2.5 (%v/v) Upper flammable/explosive limit: 19 (%v/v)
Vapour pressure	185 mmHg @ 20°C
Vapour density	2.0
Relative density	0.82 - 0.96 @ 25°C
Solubility(ies)	Slightly soluble in water.
Partition coefficient	log Pow: -0.24 Information given is applicable to the major ingredient.
Auto-ignition temperature	365°C
Decomposition Temperature	Not available.
Viscosity	2 - 5 mPa s @ 25°C
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Volatility	Volatile.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents. Strong reducing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure STOT SE 3 - H336

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

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General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting. Drowsiness, dizziness, disorientation, vertigo.
Ingestion	Liquid irritates mucous membranes and may cause abdominal pain if swallowed. Nausea, vomiting. Diarrhoea.
Skin contact	Product has a defatting effect on skin. Repeated exposure may cause skin dryness or cracking.
Eye contact	Irritating to eyes. Vapour or spray may cause temporary (reversible) eye damage.
Route of exposure	Inhalation Skin and/or eye contact Ingestion

Toxicological information on ingredients.

ACETONE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,800.0

Species Rat

ATE oral (mg/kg) 5,800.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >7400 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 76.0

Species Rat

ATE inhalation (vapours mg/l) 76.0

ETHANOL

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >2000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LC₅₀ >2000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ 51 mg/l, 4 hours, Vapour Rat

TETRABUTYLAMMONIUM BROMIDE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 500.0

Species Rat

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ATE oral (mg/kg)	500.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ >2000 mg/kg, Dermal, Rat

SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment.

12.1. Toxicity

Toxicity See the other subsections of this section for further details.

Ecological information on ingredients.

ACETONE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 5540 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 8800 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 8 days: 530 mg/l, Freshwater algae

ETHANOL

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 14200 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 96 hours: >100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 275 mg/l, Freshwater algae

TETRABUTYLAMMONIUM BROMIDE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >100 mg/l, Poecilia reticulata (Guppy)

Acute toxicity - aquatic invertebrates LC₅₀, 24 hours: >2000 mg/l, Freshwater invertebrates

Acute toxicity - aquatic plants EC₅₀, 48 hours: 300.84 mg/l, Selenastrum capricornutum

12.2. Persistence and degradability

Persistence and degradability No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Pow: -0.24 Information given is applicable to the major ingredient.

12.4. Mobility in soil

Mobility The product contains organic solvents which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

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Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information When handling waste, the safety precautions applying to handling of the product should be considered. Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of waste via a licensed waste disposal contractor.

Waste class European Waste Catalogue Number (2000/532/EC): 08 03 12

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 1210

UN No. (IMDG) 1210

UN No. (ICAO) 1210

14.2. UN proper shipping name

Proper shipping name (ADR/RID) PRINTING INK RELATED MATERIAL

Proper shipping name (IMDG) PRINTING INK RELATED MATERIAL

Proper shipping name (ICAO) PRINTING INK RELATED MATERIAL

Proper shipping name (ADN) PRINTING INK RELATED MATERIAL

14.3. Transport hazard class(es)

ADR/RID class 3 - F1

ADR/RID label 3

IMDG class 3

ICAO class/division 3

Transport labels



14.4. Packing group

ADR/RID packing group II

IMDG packing group II

ICAO packing group II

14.5. Environmental hazards

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Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS F-E, S-D

Emergency Action Code 3YE

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations Control of Substances Hazardous to Health Regulations 2002 (as amended).

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Guidance Workplace Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.

Authorisations (Annex XIV Regulation 1907/2006) No specific authorisations are known for this product.

Restrictions (Annex XVII Regulation 1907/2006) No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet ATE: Acute Toxicity Estimate.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
EC₅₀: 50% of maximal Effective Concentration.
GHS: Globally Harmonized System.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
SVHC: Substances of Very High Concern.
vPvB: Very Persistent and Very Bioaccumulative.

Revision date 08/07/2019

Revision 11

Supersedes date 27/04/2015

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SDS number	10194
Hazard statements in full	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.