SAFETY DATA SHEET (SDS)

FLIGHT SPRAY KLEAN

SAFETY DATA SHEET (SDS) according to ISO / SANS 11014:2009/2010, UN Transportation of Dangerous Goods, UN Globally Harmonized System of Classification and Labelling and EC Directives 1272/2008

SECTION 1: Identification – Chemical Product and Company

Trade Name	**FLIGHT SPRAY KLEAN**
Product Code	**040067**
Chemical Technical Name	Blend of various ingredients, alkaline salts and surfactants.
Proper Shipping Name	Not Regulated
UN Number	Not Regulated
CAS Number	Mixture
GHS Product Identifier	Degreaser
Chemical Family	Cleaner
Recommended use of the Chemical	Cleaners for Industrial and General use.
Restrictions of the Chemical	Not for personal hygiene use nor to be used by untrained
Supplier Details	persons.
Address	**Triton Gloria Investments (Pty) Ltd**
	Gauteng Business Park, Triton-Leo House, 15/16
Telephone Number	Bronssingel, Clayville Ext 20, Olifantsfontein.
E-Mail	+27(0)11 452 7048
24 Hour Emergency Phone Number	info@tritonleo.co.za / simon@q20.co.za
	+27 (0)82 874 5969

SECTION 2: Hazards Identification

GHS Classification of substances: Not Regulated

Hazard Class:	None	

Hazard Type	Hazard Category	GHS Hazard Statement
Acute toxicity oral	Category 4	H302 Harmful if swallowed
Acute toxicity dermal	Category 4	H312 Harmful in contact with skin
Acute toxicity inhalation	Category 4	H332 Harmful if inhaled
Respiratory sensitizer	Category 1B	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin corrosion/irritation	Category 3	H316 Causes mild skin irritation
Eye damage/irritation	Category 1	H318 Causes serious eye damage
Aquatic Acute	Acute 3	H402 Harmful to aquatic life
Aquatic Chronic	Not	Not Applicable
Metal Corrosion	Category 1	H290 may be corrosive to metals

The most important adverse effects to know in emergency are:-

GHS Label elements, including precautionary statements:

GHS 05 Corrosive – Serious Eye Damage

Signal word: Warning
Hazard Statement:-
H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H316 Causes mild skin irritation
H318 Causes serious eye damage
H402 Harmful to aquatic life
Not Applicable
H290 may be corrosive to metals

Precautionary statements:-
P280 Wear protective Gloves
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using / handling this product
P302 + P352 If on skin wash off with plenty of water
P332 + P313 If skin irritation continues, get medical attention
P280 Wear eye / face protection
P305 + P351 + P338 If in eyes rinse cautiously with water for several minutes, remove contact lenses if safe and easy to do, continue rinsing and get medical attention.
P261 + P271 avoid breathing mist, wear eye & face protection and use in well ventilated areas
P304 + P340 If mist inhaled and breathing – remove person to fresh air and get medical attention
P301 If swallowed and feels unwell, get medical attention.
P391 Collect Spillage
P501 Dispose of containers in accordance with regulations.

Response:
Refer Sections 5, 6 and 8
Storage:
Refer Section 7
Special Labelling requirements
Refer to Section 14 for transport labels.

SECTION3: Composition / Information on Ingredients

Chemical Identity	Mixture of water based components
Other means of identity	Clear Green Liquid
Common Name, synonyms, etc.	Blend of various ingredients, alkaline salts and surfactants

Ingredient Name	UN Number	CAS Number	%	Classification EC1272/2008
Meta Silicate Penta	UN3253	6834-92-0	1-5	229-912-9
Butyloxitol	UN1274	111-76-2	1-5	203-905-0
Sodium Xylene Sulfonate	N/A	1300-72-7	1-5	215-090-9

SECTION 4: First Aid Measures

Most important symptoms/effects, and necessary measures:

Product in eye – causes serious eye damage/irritation. Flush eyes with water for 15 min whilst holding eyelids open and remove any contact lens if safe to do so. Repeat rinsing if irritation persists and get medical attention. NB Care must be taken to avoid contaminated rinsing running back into the eyes.

Product on skin – can cause skin irritation. Remove any contaminated clothing and wash affected area with running water for at least 20 min. Wash contaminated clothing and shoes thoroughly before use.

Product ingested – do not induce vomiting, get patient to rinse mouth with water and then give at least 250-300ml water/milk to drink. If vomiting occurs, wipe mouth and give more water and get medical attention. NB if the patient is losing consciousness for any reason do NOT try to give anything by mouth!

Product inhaled or aspirated – may cause respiratory irritation. Move patient to fresh air and if any breathing difficulty persists get immediate medical advice.

SECTION 5: Fire-Fighting Measures

Product is not flammable but toxic fumes could be released from breakdown if the product is involved in a large fire.

Suitable extinguishing media: dry chemical, CO_2, water spray, fog or foam

Unsuitable extinguishing material: not known

Small fires – immediate action should be to quickly put out the fire.

Large Fires – evacuate area, move containers out and away from fire if can be done safely without increasing risk. Isolate and contain fire as much as possible, and dike or use inert material form berm to contain any spilled materials and run-off water for later disposal. NB need to prevent run-off containing product from contaminating any water source as toxic to aquatic life.

Special Hazards – Use water to keep containers cool to prevent pressure build up and possible explosion which could be caused through pressure build up.

Protective Clothing – Wear full protective clothing and self-contained, positive breathing apparatus. For large fires, get professional emergency response where very large.

Refer to the ERG – Emergency Response Guide 2016 and SANS 10232 – 3 - ERG 154

NB: Prompt actions can prevent spread of small fires but large fires involving chemicals require professional Emergency Response.

SECTION 6: Accidental Release Measures

Personal precautions – Wear personal protection before attempting to respond and contain or cleanup spills. Refer to Section 8.

Environmental precautions – Do not dispose large volumes of any chemical into watercourses or sewers, as components are environmental hazards.

Clean-up methods
Small Spills: Wear protective clothing and gloves to contain and recover any spills. Wash contaminated area with plenty of water to remove any residues. Spill may be neutralized with soda ash to pH between 6 and 9; Caution in case of any fumes generated.
Large Spills: Stop source of leaks if possible, and prevent entry into waterways, sewers or basements. Seal off area and contain by diking with soil or other inert material. Recover as much as possible and then apply an inert material such as sawdust or commercial absorbent to absorb the remainder. Collect in suitable containers and then wash and scrub away the residue.

GHS Disposal Precautionary Statement – P501 dispose of spilt product, waste and containers in accordance with SA National and/or regional Regulations, refer National Environmental Management Waste Act –NEM: WA, it's Waste Information Centre sawic.environment.gov.za

SECTION 7: Handling and Storage

Precautions for safe handling – wear appropriate personal protective equipment see section 8. Eating, drinking and smoking shall be prohibited in areas where chemicals are handled, stored or processed. Workers must wash hands before eating, drinking or smoking to remove any chemicals that could be ingested or inhaled and should remove contaminated clothing and protective equipment before entering eating areas.

Storage requirements: Store in a cool place out of direct sun and avoid sources of potential contamination.

Handling precautions: Keep drums tightly closed when used. Avoid contact with skin, eyes and clothing. Avoid breathing mist. Handle as a corrosive liquid; wear rubber gloves if likely to come into skin contact.

Conditions for Safe Storage – refer SANS 10263: The warehousing of dangerous goods, and 10263 – Part 8 The storage and handling of corrosive substances, for more specific information and relevant regulations and recognised practices for storage, warehousing and handling.

GHS Precautionary Statement P406 store in corrosion resistant containers.

Suitable storage materials
PVC – Poly Vinyl Chloride, HDPE – High Density Polyethylene, PP – Polypropylene

Product Labels – Green label including description, application, and first aid & batch no + Transport see S14

Product Shelf Life – 12 Months from date of manufacture.

SECTION 8: Exposure controls / personal protection

Control parameters e.g. occupational exposure limit values or biological limit values

Ingredient Name	%	Exposure Limits – OHS Act South Africa 1993
Meta Silicate Penta	1-5	OSHA 10mg/m^3 TWA
Butyloxitol	1-5	TLV 20ppm
Sodium Xylene Sulfonate	1-5	Not Available

Engineering control measures: Local ventilation should be available if mists are produced.

Personal protection – respiratory: Unlike route of exposure, but if mists are encountered could be irritating to the respiratory tract, use NIOSH approved respirator.

Personal protection – hand: skin irritant thus avoid contact with this chemical. Wear rubber gloves.

Personal protection – eye: Eye irritant thus wear safety glasses with side shields at all times. Contact lenses should not be worn.
Personal protection – skin: Skin irritant thus wear overalls, safety shoes/boots and apron.

Personal protection – ingestion: Restrict access to unauthorized persons. Wash hands after contact.

Other protection: A safety shower and eye wash facility should be nearby and ready for use.

Gloves	Eye Protection	Running Water	Dust Masks
Rubber/PVC	Goggles/Shield	Access	Dust Mask
			N/A

SECTION 9: Physical and Chemical Properties

Appearance	Clear Green Liquid
Odour	Characteristic Aromatic Odour
Odour Threshold	Not Known
Ph (of diluted product)	11.90 – 12.30
Density	1.042 – 1.052 (1.04)
Concentration	>9 x 0.15 = 1.35%
Initial boiling point / range	Not Assessed
Melting / Freezing point / range	Not Assessed
Flash point	>100°C
Explosive Properties	Not Applicable
Flammability	Does not readily burn
Viscosity	Not Assessed
% Volatile by volume	Not Assessed but not readily volatile at ambient temperatures
Solubility – water	Complete
Foam Ability	>170ml
Working Temperature	10 - 80°C
Phosphates	Absent
Hard water behaviour	Sequesters
Surface compatibility	No precipitation of solids or separation
Biodegradability	Biodegradable

SECTION 10: Stability and Reactivity

Chemical Stability	Product is stable under normal operating and temperature Conditions.
Reactivity	Limited, but will react with acids
Conditions to Avoid	Direct sunlight, poor ventilation and high temperatures
Substances to Avoid	Acids neutralize alkaline
Incompatible Materials	Ammonia and amines – will neutralize efficiency of product
Thermal decomposition products	Not Known
Polymerization	Does not

SECTION 11: Toxilogical Information

Acute toxicity	Results	Species	Dose/Exposure	Caution
Oral	Acute Cat 4	ATE Mix Calculated	LD_{50} 432.90mg/kg	Harmful if swallowed
Dermal	Acute Cat 4	ATE Mix Calculated	EC_{50} 1000mg/kg	Harmful if contact with skin
Inhalation	Acute Cat 4	ATE Mix Calculated	LC_{50} 1.0mG/Lt	Harmful if inhaled

Skin Corrosion / Irritation	Category 3
Eye Damage / Irritation	Category 1
Respiratory Sensitizer	Category 1B
Germ Cell Mutagenicity	No Evidence
Carcinogenicity	No Evidence
Reproductive Toxicity	Suspect as above
STOT Specific Target Organ Toxicity Single Exposure Repeated Exposure	 No Evidence No Evidence
Aspiration Hazard	Harmful with possible respiratory irritation

SECTION 12: Ecological Information

GHS – EU Group Classification, and C & L Inventory:

Hazardous to Aquatic Environment Aquatic Toxicity	 Fish LC_{50} (96hr) – 8.8108ml/l (calculated ATE Mix) Daphnia LC_{50} (48hr) – 5.1120mg/l (calculated ATE Mix) Algae EC_{50} (72hr) – 30.8766mg/l (calculated ATE Mix)
Acute (Short Term)	Category 3
Chronic (Long Term)	Category – Not Classified
Hazardous to the ozone layer	
Biodegradability	Biodegradable
Bio-accumulation	No Evidence
Mobility	No Evidence

SECTION 13: Disposal considerations

Disposal methods
Disposal must be made in accordance with the applicable National and Regulations Government regulations at approved and permitted chemical disposal sites – refer to the SA National Environmental Management Waste Act – NEM: WA, it's Regulations and local by-laws. This informs permitted Waste Facilities and Service providers see the South African Waste Information Centre sawic.environment.gov.za

Disposal of Packaging
Packagings and containers, even those that have been emptied, will retain product residue and vapours, handle empty containers as if they were full. Remove all possible traces of product and wash prior to disposal of packaging and containers. Dispose in compliance with Regulations – see above and an Industries Best Practice, always observe and comply with hazard warnings.

SECTION 14: Transport information

UN Number	Not Regulated
UN Proper shipping name	Not Regulated
Transport Class	
Packing Group	
Environmental Hazards	Harmful to aquatic life
IMDG	UN Certified Drum Not a Marine pollutant – IMDG 2.9.3 below threshold

	Refer IMDG Code volume 2 Amendment 37-14
IATA	Single packaging – Drum 1H1/1H2 Jerry 3H1/3H2 Refer IATA 2016 57th edition
Emergency response guide – ERG 2016	

SECTION 15: Regulatory information

OHS – Occupational Health & Safety Act85 of 1993: Requires site Risk Assessment and monitoring to inform personnel Health/Biological Monitoring. **Section 9A** requires providing MSDS.

MHI – Major Hazards Installations Regulations – OHS Act: Require site Risk Assessment to ascertain potential impacts outside of the site and potential impacts on the public or neighbours. A Copy must be lodged with the Dept Labour, and local Emergency Services.

Pressure Equipment Regulations – OHS Act: Encompasses containers and service equipment.

NEMA – National Environmental Management Act 107 of 1998: Duty of Care and Producer Responsibility for products and packaging on a Life Cycle basis. Environmental Impact Assessment Regulations for new installations or proposed increase in capacity over 25%.

NEM: WA – National Environmental Waste Act 59 f 2008: Extended Producer Responsibility, requirements and regulations for waste management, classification and disposal.

NEM: AQA – National Environment Air Quality Act 39 of 2004: AQA Licenses and Emissions

National Department of Health – Hazardous Substances Act 15 of 1973

EU Regulation EC 1272/2008 (EU GHS/CLP) - Requires Safety Data Sheets and Labelling.

SECTION 16: Other Information

ECHA – European Chemical Agency website, Chemical information, C&L Inventory, Chemicals of Very High Concern (SVHCs) and Chemicals for Community Rolling Action Plan (CoRAP)

ERG 2016 Transport Canada and US Dept Transportation PHMSA – Pipeline and Hazardous Materials Safety Administration.

Other relevant information including information on preparation and revision of the SDS – ISO 11014:2009 Safety Data Sheets for Chemical Products – content and order of sections adopted as SANS 11014:2010

UN Recommendations for Transport of Dangerous Goods Model Regulations commonly known as the **TDG** "**Orange Books"** 18th revision 2013 currently in effect, 19th revision published June 2015.

UN Globally Harmonized System of Classification and Labelling of Chemicals – GHS commonly known as **the GHS "purple book"** 5th revision 2013 in effect, 6th revision published July 2015.

IMDG – International Maritime Dangerous Goods Code, 2014 edition, amendment 37-14

IATA Technical Regulations 56th edition, January 2015.

EXCLUSION OF LIABILITY

The information provided in the Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication; however no guarantee is made to its accuracy. The information given is prepared only as guidance for safe handling, use, processing, storage, transportation, disposal and release and should not be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material when used in combination with any other materials or in any process, unless specified in this Safety Data Sheet.

Approved By: _____

Date Approved: _____