



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard (29 CFR 1910.1200)

Revision date 07-Aug-2024

Revision Number 3

1. Identification

Product identifier

Product name Ansul 3.6V 19Ah, Battery Module

Other means of identification

Product code 440352

UN number or ID number UN3090

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use Lithium metal battery

Uses advised against No information available

Details of the supplier of the safety data sheet

Company Name Tyco Fire Protection Products
One Stanton Street
Marinette, WI 54143-2542
Telephone: 715-735-7411

E-mail psra@jci.com

Company Phone Number Product Stewardship at +1-715-735-7411

Emergency telephone CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazard(s) identification

Classification

Note: The Lithium Thionyl chloride batteries described in this Battery Information Sheet are hermetically sealed units, which are not hazardous when used according to the recommendations of the manufacturer.

Under normal condition of use of the batteries, the electrode materials and the liquid electrolyte they contained are non-reactive provided the battery integrity is maintained. Risk of exposure exists only in case of mechanical, electrical, or thermal abuse. Thus, the batteries should not short circuit, recharge, puncture, incinerate, crush, immerse in water, force discharge, or expose to temperatures above the temperature range of the cell or battery. In these cases, there is risk of fire or explosion.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3



Label elements

Signal word

Danger

Hazard Statements

Harmful if swallowed

Harmful if inhaled

Causes severe skin burns and eye damage

May cause respiratory irritation



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

Wear protective gloves/clothing and eye/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

Specific treatment (see supplemental first aid instructions on this label)

Immediately call a POISON CENTER or doctor

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Call a POISON CENTER or doctor if you feel unwell

Immediately call a POISON CENTER or doctor

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

40 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

Hazards not otherwise classified (HNOC)

Not applicable

Other information

No information available.

3. Composition/information on ingredients

**Substance**

Not applicable.

Mixture

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical name	CAS No.	Weight-%	Trade secret
Thionyl chloride	7719-09-7	30 - 50	*
Carbon	1333-86-4	3 - 7	*
Lithium	7439-93-2	3 - 7	*
Aluminum Chloride	7446-70-0	3 - 7	*
Lithium Chloride	7447-41-8	1 - 5	*
Polyvinyl Chloride	9002-86-2	<1	*
Polytetrafluoroethylene	9002-84-0	<1	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures**Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.

Ingestion

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed**Symptoms**

Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Effects of Exposure

No information available.

**Indication of any immediate medical attention and special treatment needed****Note to physicians**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other information

Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

Environmental Precautions**Environmental Precautions**

Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Pick up and transfer to properly labeled containers.

7. Handling and storage**Precautions for safe handling**

**Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

8. Exposure controls/personal protection**Control parameters****Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Thionyl chloride 7719-09-7	Ceiling: 0.2 ppm	-	Ceiling: 1 ppm Ceiling: 5 mg/m ³
Carbon 1333-86-4	TWA: 3 mg/m ³ inhalable particulate matter	-	IDLH: 1750 mg/m ³ TWA: 3.5 mg/m ³ TWA: 0.1 mg/m ³ Carbon black in presence of Polycyclic aromatic hydrocarbons PAH
Aluminum Chloride 7446-70-0	-	-	TWA: 2 mg/m ³ Al
Polyvinyl Chloride 9002-86-2	TWA: 1 mg/m ³ respirable particulate matter	-	-

Appropriate engineering controls**Engineering controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Tight sealing safety goggles. Face protection shield.

Hand protection

Wear suitable gloves. Impervious gloves.

Skin and Body Protection

Gloves made of plastic or rubber Rubber boots Suitable protective clothing Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact Wear chemical resistant clothing such as gloves, apron, boots or whole bodysuits made from neoprene, as appropriate

Respiratory Protection

In case of insufficient ventilation, wear suitable respiratory equipment Wear a respirator conforming to EN 140 with Type A filter or better

Ventilation

Use local exhaust or general dilution ventilation to control exposure with applicable limits

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing



and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Geometric Solid object
Color	No information available
Odor	If leaking, gives off pungent corrosive odor
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	None known
pH (as aqueous solution)		None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Relative vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Refractive Index	No information available
Bulk density	> 1 gr/cc

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.



Conditions to avoid	Avoid mechanical abuse and electrical abuse such as short-circuiting, overcharge, over-discharge, (voltage reversal) and heating. Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	Hydrogen. Lithium hydroxide. Oxides of sulfur. Sulfur chlorides. Chlorine. Lithium oxide. Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity Harmful if swallowed. Harmful by inhalation.

Numerical measures of toxicity
No information available

The following values are calculated based on chapter 3.1 of the GHS document
ATEmix (oral) 538.80 mg/kg

Unknown acute toxicity
40 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Thionyl chloride 7719-09-7	= 270 mg/kg (Rat)	-	= 2.717 mg/L (Rat) 4 h



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Carbon 1333-86-4	> 15400 mg/kg (Rat)	-	> 4.6 mg/m ³ (Rat) 4 h
Aluminum Chloride 7446-70-0	= 380 mg/kg (Rat)	-	-
Lithium Chloride 7447-41-8	= 526 mg/kg (Rat)	> 2000 mg/kg (Rat)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Carbon 1333-86-4	A3	Group 2B	-	X
Polyvinyl Chloride 9002-86-2	-	Group 3	-	-
Polytetrafluoroethylene 9002-84-0	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No information available.

STOT - single exposure May cause respiratory irritation.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Aluminum Chloride 7446-70-0	-	LC50: 5.31 - 7.2mg/L (96h, Oncorhynchus mykiss) LC50: 6.2 - 11.9mg/L (96h, Oncorhynchus mykiss)	-	EC50: =3.9mg/L (48h, Daphnia magna)
Lithium Chloride 7447-41-8	-	LC50: =158mg/L (96h, Oncorhynchus mykiss)	-	-

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
Lithium Chloride 7447-41-8	-2.66

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

Note: The Lithium Thionyl chloride batteries described in this Battery Information Sheet are hermetically sealed units, which are not hazardous when used according to the recommendations of the manufacturer.
Under normal condition of use of the batteries, the electrode materials and the liquid electrolyte they contained are non-reactive provided the battery integrity is maintained. Risk of exposure exists only in case of mechanical, electrical, or thermal abuse. Thus, the batteries should not short circuit, recharge, puncture, incinerate, crush, immerse in water, force discharge, or expose to temperatures above the temperature range of the cell or battery. In these cases, there is risk of fire or explosion.

DOT
UN number or ID number UN3090
Proper shipping name Lithium metal batteries



Transport hazard class(es)	9
Special Provisions	388, 422, A54
DOT Marine Pollutant	NP
Description	UN3090, Lithium metal batteries, 9
Emergency Response Guide Number	138

TDG

UN number or ID number	UN3090
UN proper shipping name	Lithium metal batteries
Transport hazard class(es)	9
Special Provisions	34, 123, 137, 138, 149, 159
Description	UN3090, Lithium metal batteries, 9

MEX

UN number or ID number	UN3090
UN proper shipping name	Lithium metal batteries
Transport hazard class(es)	9
Packing group	II
Description	UN3090, Lithium metal batteries, 9, II
Special Provisions	188, 230, 310

ICAO (air)

UN number or ID number	UN3090
UN proper shipping name	Lithium metal batteries
Transport hazard class(es)	9
Description	UN3090, Lithium metal batteries, 9
Special Provisions	A88, A99, A154, A164, A183, A201, A213

IATA

UN number or ID number	UN3090
UN proper shipping name	Lithium metal batteries
Transport hazard class(es)	9
Description	UN3090, Lithium metal batteries, 9
Special Provisions	A88, A99, A154, A164, A183, A201, A213, A334, A802
ERG Code	12FZ

IMDG

UN number or ID number	UN3090
UN proper shipping name	Lithium metal batteries
Transport hazard class(es)	9
EmS-No	F-A, S-I
Special Provisions	188, 230, 310, 376, 377, 384, 387
Marine pollutant	NP
Description	UN3090, Lithium metal batteries, 9

15. Regulatory information**International Inventories**

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Complies



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PICCS	Complies
AIIC	Complies
NZIoC	Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AIIC - Australian Inventory of Industrial Chemicals

NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65
Carbon - 1333-86-4	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Thionyl chloride 7719-09-7	X	X	X
Carbon 1333-86-4	X	X	X
Lithium 7439-93-2	X	X	X
Aluminum Chloride	X	X	X



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7446-70-0			
Polytetrafluoroethylene 9002-84-0	-	-	X
Polyvinyl Chloride 9002-86-2	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 3	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 3	Flammability 0	Physical hazards 0	Personal protection X

Chronic Hazard Star Legend * = Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 07-Aug-2024
Revision Note No information available.

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.

End of Safety Data Sheet