

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION

Product Name Flush K11

Other means of identification

Product code(s) FLUSH K11

UN number or identification number ONU1993

Synonyms FLUSH K11 500ml, FLUSH K11 1L, FLUSH K11 5L

Recommended use and restrictions on use of the chemical

Recommended use Cleaning agent.

Usage restrictions No information available.

Supplier details about security data

Manufacturer K11 INDÚSTRIA E COMÉRCIO LTDA
WWW.K11.COM.BR
CNPJ: 16.919.091/0001-01
Inscrição Estadual: 239236150112
Rua Alvarenga Peixoto, 143 - Galpão 01 - LARANJEIRAS
CAIEIRAS - SP - Brasil - CEP: 07739-095

Email address k11@k11.com.br

Emergency telephone number CEATOX (CENTRO DE ASSISTÊNCIA TOXCOLÓGICA) - 0800 014 8110
SAMU 192 - FIRE DEPARTMENT 193 - IBAMA 152
Service of the Hospital das Clínicas of the Faculty of Medicine of USP receives calls from all over Brazil 24 hours a day

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification Most Important Risks

Aspiration hazard	Category 1
Acute toxicity - Dermal	Category 5
Acute toxicity - Inhalation (Vapors)	Category 5
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity - Single exposure	Category 3
Specific target organ toxicity - Repeated exposure	Category 2

Labeling elements

**Word of warning**

Danger

Hazard phrases

- May be harmful in contact with skin
- May be harmful if inhaled
- Causes skin irritation
- Causes serious eye irritation
- Suspected of harming fertility or the fetus
- May cause drowsiness or dizziness
- May cause damage to organs through repeated or prolonged exposure
- Toxic to aquatic organisms
- May be fatal if ingested and enters the respiratory tract
- Highly flammable liquid and vapors

Precautionary phrases - Prevention

- Obtain specific instructions before use
- Do not handle the product until you have read and understood all safety precautions
- Carefully wash your face, hands and any exposed skin after handling
- Only use outdoors or in well-ventilated areas
- Do not inhale dust/fumes/gases/mists/vapors/aerosols
- Avoid release into the environment
- Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Don't smoke
- Keep the container tightly closed
- Use explosion-proof electrical/ventilating/lighting equipment
- Ground the container vessel and product receiver during transfers
- Only use non-sparking tools
- Avoid the accumulation of electrostatic charges
- Keep in a cool place
- Use protective gloves/clothing and eye and face protection
- Contaminated work clothes cannot leave the workplace.

Precautionary phrases - Answer

- IF EXPOSURE OR SUSPECTED EXPOSURE: Consult a doctor
- IF CONTACT WITH EYES: Rinse carefully with water for several minutes. If you use contact lenses, remove them if it is easy. Keep rinsing
- IF EYE IRRITATION PERSISTS: Consult a doctor
- IN CASE OF SKIN IRRITATION: Consult a doctor
- IN CASE OF CONTACT WITH SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water/shower
- Wash contaminated clothing before using it again
- IF INHALED: Remove person to a well-ventilated area and keep at rest in a position that does not make breathing difficult
- If you feel unwell, contact a doctor
- IF SWALLOWED: Contact a doctor immediately
- DO NOT induce vomiting
- IN CASE OF FIRE: Use dry sand, dry chemical powder or alcohol-resistant foam to extinguish

Precautionary phrases - Storage

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

Precautionary phrases - Layout

Dispose of contents/container in an approved waste disposal facility

Other information

No information available.

SECTION 3: COMPOSITION AND INFORMATION ABOUT INGREDIENTS

Pure substance/mixture Mixture.

Substance

Does not apply.

Mixture

Chemical name	CAS No	Weight-%
Hydrocarbon	--	50-70
Ester	--	30-50
Citrus Extract	--	1-5

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General guidance	Show this safety information sheet to the doctor present. It is necessary to search medical assistance immediately.
Inhalation	Inhalation: If inhaled or exposure is suspected: Remove to fresh air. Aspiration into the lungs can produce serious lung damage. If breathing stops, give artificial respiration. Seek medical attention immediately. Avoid direct contact with the skin. Use a barrier to administer mouth-to-mouth resuscitation. If breathing is difficult, trained personnel should administer oxygen. Consult a doctor immediately. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. Keep your eyes wide open when rinsing. Do not rub the affected area. If you use contact lenses, remove them if it is easy. Continue rinsing. Seek medical attention if irritation develops and persists.
Skin contact	Wash immediately with plenty of soap and water while removing all contaminated clothing and shoes. Seek medical attention if irritation develops and persists.
Ingestion	DO NOT induce vomiting. Rinse your mouth. Never administer anything orally to an unconscious person. RISK OF ASPIRATION IF SWALLOWED - MAY PENETRATE THE LUNGS AND CAUSE DAMAGE. If spontaneous vomiting occurs, keep your head below your hips to prevent aspiration. Consult a doctor immediately.
Protection for the aid provider	Eliminate all sources of ignition. Make sure healthcare professionals are aware of the materials involved, take precautions to protect themselves and prevent contamination from spreading. Use required personal protective equipment. See section 8 for more information. Avoid direct contact with the skin. Use a barrier to administer mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

Most important symptoms and effects, acute or delayed

Symptoms	Difficulty breathing. Cough and/or wheezing. Dizziness. It can cause redness and watering of the eyes. Burning sensation. Inhaling high concentrations of vapor can cause symptoms such as headache, dizziness, tiredness, nausea and vomiting.
-----------------	---

Indication of any immediate medical attention and necessary special treatment

Notes to the doctor	Due to the danger of aspiration, vomiting or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.
----------------------------	---

SECTION 5: FIRE-FIGHTING MEASURES

Appropriate Extinguishing Media	Dry chemical powder. Carbon dioxide (CO ₂). Water sprinkling. Foam resistant to alcohol.
Big Fire Proportion	CAUTION: using a water jet may be ineffective in fighting fires.
Extinguishing media not recommended	Do not spread spilled material with pressurized water jets.
Specific hazards arising of the chemical	Ignition risk. Keep the product and empty container away from heat and sources of ignition. In case of fire, cool the tanks with water spraying. Fire waste and contaminated water used for fire extinguishing must be disposed of in accordance with local regulations.
Explosive properties	
Sensitivity to electrostatic discharges	Yes.
Sensitivity to mechanical impacts	None.
Equipamentos de proteção e precauções especiais para a equipe de combate a incêndios	Protective equipment and special precautions for fire fighting team

SECTION 6: CONTROL MEASURES FOR SPILLS OR LEAKS

Personal precautions, protective equipment and emergency procedures

Personal precautions	Evacuate personnel to safe areas. Use required personal protective equipment. See section 8 for more information. Avoid contact with skin, eyes or clothing. Check that ventilation is adequate. Keep people away from spills/leaks and upwind. ELIMINATE all sources of ignition (cigarettes, flames, sparks, or flames in the immediate area). Pay attention to the flame recoil. Avoid accumulation of electrostatic charges. All equipment used to handle the product must be grounded. Do not touch or walk over spilled material. Avoid breathing vapors or mists.
Other information	Ventilate the area. See the protective measures listed in sections 7 and 8.
For emergency service personnel	Personal Precautions: Use the personal protection recommended in Section 8.

Environmental precautions

Environmental precautions	Refer to protective measures listed in sections 7 and 8. Prevent further leaks or spills if safe to do so. Prevent the product from entering drains.
----------------------------------	--

Methods and materials for containment and cleaning

Methods for containment	Stop the leak if it is possible to do so without risk. Do not touch or walk over spilled material. A vapor suppressant foam can be used to reduce vapors. Create containment barriers away from the source of the spill to retain the runoff of water used to control the incident. Keep away from drains, sewage pipes, ditches and water courses. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
Cleaning methods	Avoid accumulation of electrostatic charges. Do the containment. Absorb with material inert absorbent. Collect and transfer to properly labeled and hermetically sealed containers.
Prevention of secondary hazards	Clean contaminated objects and areas carefully in compliance with environmental regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Precautions for handling insurance Use personal protective equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Don't smoke. Use potential equalizing connection and grounding when transferring this material, to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with fire extinguishers. Use according to the instructions on the packaging label. Handle in accordance with good industrial hygiene and safety practices. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke while using this product. Remove contaminated clothing and footwear. Remove all contaminated clothing and wash it before using it again. In case of insufficient ventilation, use respiratory protective equipment.

Safe storage conditions, including any incompatibilities

Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flames and other sources of ignition (e.g. pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with fire extinguishers. Store in accordance with specific national regulations. Store in accordance with local regulations. Store in a locked place. Keep out of reach of children. Store away from other materials.

Incompatible materials Strong acids. Strong foundations. Strong oxidizing agents.

SECTION 8: EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Guidelines

Chemical name	Brazil	Chile	Argentina	Venezuela
Hydrocarbon	TWA: 50 ppm	LPP: 44 ppm LPP: 154 mg/m ³	TWA: 50 ppm Skin Stel: 1000 ppm	STEL: 1000 ppm TWA: 50 ppm
Ester	TWA: 310 ppm TWA: 1090 mg/m ³	LPP: 350 ppm LPP: 1260 mg/m ³	TWA: 400 ppm	STEL: 15 ppm TWA: 400 ppm

Biological limits of occupational exposure This product, as supplied, does not contain any hazardous materials with biological limits established by regional regulatory bodies.

Chemical name	Brazil	Chile	Argentina	Venezuela
Hydrocarbon	0.5 mg/L - urine	5 mg/g Creatinine urine	4 mg/g Creatinine: urine	0.4 mg/L -

Exposure control and personal protection

Engineering controls Showers
Eye wash stations
Ventilation systems.

Personal protection measures, namely personal protective equipment

Eye/face protection Wide vision safety glasses.

Skin and body protection Wear suitable protective clothing. Long-sleeved clothing. Chemical resistant apron. Anti-static boots.

Hand protection	Use suitable gloves. Waterproof gloves.
Respiratory protection	No protective equipment is required under normal conditions of use. If exposure limits are exceeded or if irritation occurs, ventilation and evacuation may be required.
General considerations about hygiene	Não coma, beba ou fume durante a utilização deste produto. A roupa de trabalho contaminada não pode sair do local de trabalho. Recomenda-se limpeza regular dos equipamentos, da área de trabalho e das roupas. Lave as mãos antes dos intervalos e imediatamente após manusear o produto. Usar luvas e equipamento de proteção para os olhos /face adequados. Evite contato com a pele, os olhos ou as roupas.
Environmental Exposure Controls	No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information based on physical and chemical properties

- Physical state	Liquid
- Appearance	Liquid
- Color	Colorless
- Odor	Ether.
- Odor limit	No information available

Properties	Values	Notes • Method
- pH	No data available	None known
- Melting point / melting point freezing	No data available	None known
- Boiling range	> 70.5 °C	
- Flash point	-25 °C	CC (closed chamber)
- Evaporation rate	No data available	None known
- Flammability	No data available	None known
- Flammability Limit in Air		
Upper flammability or explosive limit	8.87	
Lower flammability or explosive limit	1.46	
- Vapor pressure	108.8mmHg	@ 25 °C
- Relative vapor density	No data available	
- Relative density	No data available	None known
- Solubility in water	No data available	None known
- Solubility(ies)	No data available	None known
- Partition coefficient	No data available	None known
- Auto-ignition temperature	277 °C	
- Decomposition temperature	No data available	None known
- Kinematic viscosity	No data available	None known
- Dynamic viscosity	No data available	None known
- Explosive properties	No information available	
- Oxidizing properties	No information available	

Other information

- Softening point	No information available
- Molecular weight	No information available
- VOC content	100%
- Density of the liquid	0.747-0.823
- Apparent density	No information available
- Characteristics of particles	

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Reactivity No information available.

Sensitivity to electrostatic discharges Yes.

Sensitivity to mechanical impacts None.

Chemical stability

Stability Stable under normal conditions.

Possibility of dangerous reactions

Possibility of dangerous reactions None under normal processing.

Conditions to avoid

Conditions to avoid Heat, flames and sparks. Excessive heat.

Incompatible materials

Incompatible materials Strong acids. Strong foundations. Strong oxidizing agents.

Hazardous decomposition products

Hazardous decomposition products No [effects] known, based on information provided.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture are not available. Aspiration into the lungs can produce serious lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause respiratory tract irritation. May cause drowsiness or dizziness. May be harmful if inhaled. (based on components). May be harmful if inhaled.

Eye contact Specific test data for the substance or mixture are not available. May cause irritation. Causes serious eye irritation. (based on components). It can cause redness, itching and pain.

Skin contact Repeated exposure may cause dryness or cracking of the skin. Specific test data for the substance or mixture are not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture are not available. Potential for aspiration if swallowed. May cause lung damage if ingested. Aspiration can cause pulmonary edema and pneumonitis. It can be fatal if swallowed and enters the respiratory tract. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to physical, chemical and toxicological characteristics

Symptoms Difficulty breathing. Cough and/or wheezing. Dizziness. Redness. It can cause redness and watering of the eyes. Inhaling high concentrations of vapor can cause symptoms such as headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical toxicity measurements

The following values are calculated based on chapter 3.1 of the GHS document

- Estimation of the acute toxicity (ATE) of the mixture (oral)	10,984.60 mg/kg.
- ATE _{mix} (dermal)	4,337.30 mg/kg.
- Estimation of the acute toxicity (ATE) of the mixture (gas inhalation)	99,999.00 ppm.
- Estimation of the acute toxicity (ATE) of the mixture (dust/mist inhalation)	99,999.00 mg/l.
- Estimation of the acute toxicity (ATE) of the mixture (vapor inhalation)	34.0192 mg/l.

Composition and information about ingredients

Chemical name	DL 50 oral	DL 50 dermal	Inhalation CL50
Hydrocarbon	= 25 g/kg (Rat)	= 3000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h
Ester	= 5620 mg/kg (Rat)	> 18000 mg/kg (Rabbit)	= 4000 ppm (Rat) 4 h
Citrus Extract	= 4400 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	-

Immediate and delayed effects and chronic effects resulting from brief and prolonged exposure

Skin corrosion/irritation	Classification based on available data for ingredients. Causes irritation to skin.
Serious eye damage/eye irritation	Classification based on available data for ingredients. Causes irritation severe eye.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	Contains a known or suspected reproductive toxin. Classification based on data available for the ingredients. It is suspected of harming fertility or the fetus.
Toxic effects on development	No information available.
Organ toxicity except specific single exposure	May cause drowsiness or dizziness.
Specific target organ toxicity repeated exposure	May cause damage to organs through repeated or prolonged exposure.
Effects on target organs	Respiratory system. Eyes. Skin. Central nervous system. Peripheral nervous system (PNS).
Neurological effects	No information available.
Aspiration hazard	It can be fatal if swallowed and enters the respiratory tract.

SECTION 12: ECOLOGICAL INFORMATION

Information on likely routes of exposure

Ecotoxicity	Toxic to aquatic organisms.
Unknown aquatic toxicity	0% of the mixture consists of component(s) with unknown risks to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustaceans
Hydrocarbon		LC50: 2.1 - 2.98mg/L (96h, Pimephales promelas)		
Ester		LC50: 220 - 250mg/L (96h, Pimephales promelas) LC50: =484mg/L (96h, Oncorhynchus mykiss) LC50: 352 - 500mg/L (96h, Oncorhynchus mykiss)		EC50: =560mg/L (48h, Daphnia magna)
Citrus Extract		35: 96 h Oncorhynchus mykiss mg/L LC50 0.619 - 0.796: 96 h Pimephales promelas mg/L LC50 flow-through		

Persistence and degradability Easily Biodegradable.

Mobility No information available.

Bioaccumulation

Composition and information about ingredients

Chemical name	Partition coefficient
Hydrocarbon	4
Ester	0.73
Citrus Extract	4.38

Other adverse effects No information available.

SECTION 13: FINAL DISPOSAL CONSIDERATIONS

Garbage of waste/unused products It must not be released into the environment. Dispose of in accordance with local regulations. Waste must be disposed of in accordance with environmental legislation.

Contaminated packaging Empty containers present potential fire and explosion hazards. Do not cut, pierce or weld containers.

SECTION 14: TRANSPORTATION INFORMATION

IMDG

- IMDG Not regulated.

- Notes	Eligible for Marine Pollutant exception for <= 5L/5kg. No components found suitable for Marine Pollutant Name.
- UN number or identification number	UN1993
- Appropriate UN name for boarding	Flammable liquid, N.E.
- Dangerous transport class(es)	3
- Packaging group	II
- Technical name	Flammable liquid, N.E.
- Marine pollutant	P
- Marine pollutant	Flammable liquid, N.E.
- Description	UN1993, Flammable liquid, N.E. ., 3, II, 25°C c.c.), Marine pollutant
- Special provisions	274
- EmS-N°	F-E, S E

IATA

- Notes	
- UN number or identification number	UN1993
- Appropriate UN name for boarding	Flammable liquid, N.E.
- Dangerous transport class(es)	3
- Packaging group	II
- Technical name	Flammable liquid, N.E.
- Description	UN1993, Flammable liquid, N.E. . ., 3, II
- Special provisions	A3
- ERG Code	3H

ANTT

- Notes	
- UN number or identification number	ONU1993
- Appropriate UN name for boarding	Flammable liquid, N.E.
- Dangerous transport class(es)	3
- Packaging group	II
- Technical name	Flammable liquid, N.E.
- Dangerous environment	Sim
- Description	UN1993, Flammable liquid, N.E. . ., 3, II
- Special provisions	274
- Risk number	33

SECTION 15: REGULATORY INFORMATION

Specific safety, health and environmental regulations/laws for substances or mixtures

Brazil See section 8 for national exposure control parameters

International Regulations

Montreal Protocol on Substances that Deplete the Ozone Layer Does not apply

Stockholm Convention on Persistent Organic Pollutants Does not apply

Rotterdam Convention Does not apply

International Stocks

- TSCA	He meets.
- DSL/NDSL	He meets.
- EINECS/ELINCS	He meets.
- ENCS	He meets.
- IECSC	He meets.
- KECL	He meets.
- PICCS	He meets.
- AIIC	He meets.
- NZIoC	He meets.

Caption

TSCA - Inventory Section 8(b) Toxic Substances Control Act in the United States
DSL/NDSL - Canadian List of Domestic Substances/List of Non-Domestic Substances
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Existing and New Chemicals from Japan
IECSC - Inventory of Existing Chemical Substances of China
KECL - Existing and Evaluated Chemicals of Korea
PICCS - Philippine Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Chemical Substance Inventory

SECTION 16: OTHER INFORMATION

Legend of abbreviations and acronyms used in the safety information sheet

Legend SECTION 8: Exposure control and personal protection

Weighted average by time (TWA)	TWA (time weighted average)	Short Time Exposure Limit (STEL)	STEL (Short Term Exposure Limit)
upper limit	Maximum limit value	*	Skin Designation

Main literature references and data sources used to compile the SDS

- Agency for Toxic Substances and Disease Registry, ATSDR
- US Environmental Protection Agency ChemView Database
- European Food Safety Authority (EFSA)
- EPA (Environmental Protection Agency)
- Acute Guidance Exposure 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
- Database of hazardous substances
- International Database of Uniform Information on Chemical Substances (IUCLID)
- National Institute of Technology and Assessment (NITE)
- Australia's National Industrial Chemicals Assessment and Notification Program (NICNAS)
- NIOSH (National Institute for Occupational Safety and Health)
- ChemID Plus from the National Library of Medicine (NLM CIP)
- U.S. National Library of Medicine PubMed database (NLM PUBMED)
- National Toxicological Program (NTP)
- New Zealand Chemical Classification and Information Database (CCID)
- Health, safety and environmental publications from the Organization for Economic Co-operation and Development
- Program for high-volume chemical compounds from the Organization for Economic Co-operation and Development
- Organization for Co-operation and Development Assessment Information Dataset
- World Health Organization

Revision date 05-jan-2026

Review note *** Indicates data updated since the last publication.

This safety information sheet was prepared in accordance with the requirements of: ABNT NBR 14725-4:2014, ABNT NBR 14725-2:2019.

Disclaimer

To the best of our knowledge, the information contained in this Chemical Safety Data Sheet was correct on the date of its publication. The information provided here is for the sole purpose of guiding the safe handling, use, processing, storage, transportation, disposal and release of the product, and should not be considered a guarantee or quality specification. This information relates only to the specific material designated here, and may not be valid if such material is used in combination with other materials or in other processes, unless otherwise specified in the text.

End of Safety Data Sheet