

# Safety Data Sheet

## SPIRIT 64




### Safety Data Sheet dated 16/10/2017, version 4.0

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

- 1.1. Product identifier  
Mixture identification:  
Trade name: SPIRIT 64  
Trade code: 13110/04
- 1.2. Relevant identified uses of the substance or mixture and uses advised against  
Recommended use: Detergent and cleaner for conditioner air equipment. (aerosol).  
Uses advised against: Relevant uses are listed above. No other uses are recommended.
- 1.3. Details of the supplier of the safety data sheet  
Company:  
Strima Sp. z o.o.  
Swadzim, ul. Poznańska 54  
62-080 Tarnowo Podgórne  
Competent person responsible for the safety data sheet:  
mail@strima.com
- 1.4. Emergency telephone number  
Strima Sp. z o.o. +48 61 8950950

#### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture  
EC regulation criteria 1272/2008 (CLP)  
 Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.

Adverse physicochemical, human health and environmental effects:  
No other hazards

- 2.2. Label elements  
Hazard pictograms:



- Danger  
Hazard statements:  
H222 Extremely flammable aerosol.  
H229 Pressurized container: may burst if heated.
- Precautionary statements:  
P102 Keep out of reach of children.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P211 Do not spray on an open flame or other ignition source.  
P251 Do not pierce or burn, even after use.  
P261 Avoid breathing spray.  
P271 Use only outdoors or in a well-ventilated area.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.  
P501 Dispose of contents/container in accordance with applicable regulations.
- Special Provisions:  
Regulation: 648/2004 (Detergents):  
15-30% Aliphatic hydrocarbons  
<5% Anionic surfactants  
The manufacturer cannot be held responsible in case of damages caused by incorrect use of the product.
- Special provisions according to Annex XVII of REACH and subsequent amendments:  
None
- 2.3. Other hazards  
vPvB Substances: None - PBT Substances: None
- Other Hazards:  
Aerosol containers may deform, explode and be thrown far away if exposed to temperature exceeding 50°C. Vapours forms flammable and explosive mixture with air; vapours are heavier than air, so they can accumulate in confined spaces and spread over the ground, causing fire risk even if the ignition occurs far away from the leakage.  
Aerosol contains an asphyxiating gas: avoid vapours accumulation in closed spaces because of asphyxiating risk due to the lack of oxygen.

# Safety Data Sheet

## SPIRIT 64










### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

N.A.

#### 3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 10% - < 12.5%	propane	Index number: 601-003-00-5 CAS: 74-98-6 EC: 200-827-9 REACH No.: 01-2119486944-21	 2.2/1 Flam. Gas 1 H220  2.5 Press. Gas H280
>= 2.5% - < 5%	butane	Index number: 601-004-00-0 CAS: 106-97-8 EC: 203-448-7 REACH No.: 01-2119474691-32	 2.2/1 Flam. Gas 1 H220  2.5 Press. Gas H280
>= 2.5% - < 5%	propan-2-ol	Index number: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH No.: 01-2119457558-25	 2.6/2 Flam. Liq. 2 H225  3.3/2 Eye Irrit. 2 H319  3.8/3 STOT SE 3 H336
>= 1.5% - < 2.5%	isobutane	Index number: 601-004-00-0 CAS: 75-28-5 EC: 200-857-2 REACH No.: 01-2119485395-27	 2.2/1 Flam. Gas 1 H220  2.5 Press. Gas H280

For the wording of the listed hazard statements refer to section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothes and wash them before reuse.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath). In case of irritation seek medical advice.

In case of eye contact:

After contact with the eyes, rinse immediately with plenty of water with open eyelids for at least 15 minutes. Then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of ingestion:

Aerosol inadvertent ingestion is unlikely to happen. In case of ingestion, consult a doctor. Induce vomiting only in case the doctor suggest to do so. Don't give nothing orally if the person is unconscious.

In case of inhalation:

Move injured people to fresh air and keep them warm and at rest. Consult a doctor in case of difficult breathing.

Protective measurement for first-aiders:

See section 8.2 to check personal protective equipment for first-aid measures.

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

For symptoms and effects due to the contained substances, see Section 11.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

None in particular

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media: CO<sub>2</sub> (carbon dioxide), dry chemical or chemical foam fire extinguisher.

# Safety Data Sheet

## SPIRIT 64

- Extinguishing media which must not be used for safety reasons: Do not use water jets on the burning product.
- 5.2. Special hazards arising from the substance or mixture  
Do not inhale explosion and combustion gases. Combustion originates complex gas mixtures, containing carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>) and unburned hydrocarbons. Vapours are heavier than air, and may form flammable mixtures with air. Containers may deform and explode if exposed to temperature exceeding 50 °C.
- 5.3. Advice for firefighters  
Wear full fire protection equipment (Type EN 11611 or EN469) with self-contained breathing apparatus (Type EN 137), visor helmet and neck protection (Type EN443), anti-heat gloves (Type EN407).  
Collect contaminated fire extinguishing water separately. Fire extinguishing water must not be discharged into drains.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Nebulised water can be used to cool down overheated containers after their exposure to fire. Prevent extinguishing media from entering the sewage or watercourses.

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### SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures  
Wear personal protection equipment (See Section 8). Indicate the danger of slipping clearly.  
Remove all sources of ignition.  
Remove persons to safety.  
See protective measures under point 7 and 8.
- 6.2. Environmental precautions  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- 6.3. Methods and material for containment and cleaning up  
Provide proper ventilation. Use non-sparking tools and equipment. Wash with plenty of water. Contain spillage with non-combustible absorbing materials such as sand, earth, vermiculite, diatomaceous earth and dispose of the product by means of a waste disposal authorized company.
- 6.4. Reference to other sections  
See also section 8 and 13

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### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling  
Pressurized container. Do not perforate or burn even after use.  
Do not use near flames or other possible sources of ignition. Do not smoke during work. Avoid accumulation of electrostatic charge. Do not spray on flames, warm surface or incandescent objects.  
Use only in a well ventilated area. Vapours may burn, causing explosions. Prevent vapours accumulation by keeping doors and windows open and by assuring a proper ventilation.  
Vapours are heavier than air, so they can accumulate in confined spaces and spread over the ground, causing fire risk even if the ignition occurs far away from the leakage.  
Avoid direct exposure to sunlight.  
Do not expose to temperatures exceeding 50°C/122°F.  
Avoid skin and eye contact, vapours and mist inhalation.  
Environmental protection measures: reduce the risk of releasing the mixture in the environment/air. Avoid inadvertent leakage, store far away from sewer.  
Occupational hygiene measures: contaminated clothes have to be substituted before entering dining rooms. Do not eat, drink or smoke at workplace. Wash hands after using the mixture.  
See section 8 for recommended protective devices.
- 7.2. Conditions for safe storage, including any incompatibilities  
Technical measures and storage conditions: store in a well ventilated area, protect from direct sunlight.  
Recommended storage temperature: between 15°C and 30°C.  
Protect from flames, sparks, heat/combustion sources.  
Keep containers in an upright and safe position, preventing them from falls and collisions. Do not store in corridors and stairs. Store only in original and tightly closes containers.  
Do not perforate or open the containers. Keep far from food, beverages and animal feed.  
Incompatible materials: do not store with comburents, self-flammable or self-heating substances, organic peroxides, oxidising agents, pyrophoric solids or liquids, explosives. See also section 10.  
Provisions for storage rooms: proper ventilation. Avoid electrostatic charge accumulation. Storage class: see section 15.1 (Seveso III).
- 7.3. Specific end use(s)  
See section 1.2.

# Safety Data Sheet

## SPIRIT 64

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

propane - CAS: 74-98-6

ACGIH - Notes: Asphyxia

butane - CAS: 106-97-8

ACGIH - STEL: 1000 ppm - Notes: CNS impair

propan-2-ol - CAS: 67-63-0

ACGIH - TWA(8h): 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair

and isobutane - CAS: 75-28-5

ACGIH - STEL: 1000 ppm - Notes: CNS impair

#### DNEL Exposure Limit Values

propan-2-ol - CAS: 67-63-0

Consumer: 26 mg/kg - Exposure: Human Oral - Frequency: Long Term, local effects

Worker Industry: 500 - Consumer: 89 19141.03 - Exposure: Human Inhalation - Frequency: Long Term, local effects

Worker Industry: 888 - Consumer: 319 mg/kg - Exposure: Human Dermal - Frequency: Long Term, local effects

#### PNEC Exposure Limit Values

propan-2-ol - CAS: 67-63-0

Target: Marine water - Value: 140.9 mg/l

Target: Fresh Water - Value: 140.9 mg/l

Target: Marine water sediments - Value: 552 mg/kg

Target: Freshwater sediments - Value: 552 mg/kg

Target: Soil (agricultural) - Value: 28 mg/kg

#### 8.2. Exposure controls

##### Eye protection:

Wear goggles with lateral protection EN166 .

If exposure to vapours cause a sense of bother to eyes, use antigas mask with complete facial.

##### Protection for skin:

Wear clean antistatic and covering garments, and antistatic safety-shoes for professional use, S2 category (Type EN20345).

In case of long and frequent contact use protective garments, than are impervious to this product (Type EN340 – EN13034).

##### Protection for hands:

During manipulation is necessary protect hands with chemical resistant gloves Type EN374 (PVC, PE, neoprene, Nitrile, Viton, not natural Rubber). It is recommended to use gloves with Protective Index 6: permeation time >480min, Thickness >0,3mm. Change gloves in case of wear, cracks or internal contamination.

##### Respiratory protection:

Product concentration in air should be lower than exposure limit values. As the concentration exceed the threshold limit values, proper respiratory protection should be used. Use protective masks EN149 with FFP2 filters, half-face respirator type EN140 with EN143:A2 filters, or full face breathing mask EN136 with EN143:A2 filters.

##### Thermal Hazards:

The aerosol container if overheated, deforms, breaks and it can be thrown a considerable distance.

##### Environmental exposure controls:

Emissions originating from production and use of the product, included those originated during ventilation operations, should be monitored in order to comply with the environmental protection regulations. Product residuals shouldn't be drained into watercourses or waste water.

For further information see section 6.

##### Appropriate engineering controls:

Adequately ventilate rooms where the product is stored and handled. Use only if the place is adequately ventilated.

Local ventilation might be necessary for certain operations. Minimize exposure concentration at the workplace. Use proper technical equipment to maintain the concentration below threshold limit values or guidelines for exposure.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Properties	Value	Method:
Appearance and colour:	N.A.	--
Odour:	Typical (light petroleum products)	--
Odour threshold:	N.A.	--

# Safety Data Sheet

## SPIRIT 64

pH:	7	--
Melting point / freezing point:	N.A.	--
Initial boiling point and boiling range:	N.A.	--
Flash point:	< 0 ° C	--
Evaporation rate:	N.A.	--
Solid/gas flammability:	N.A.	--
Upper/lower flammability or explosive limits:	15 Vol % - 1.8 Vol %	--
Vapour pressure:	3-5 bar	--
Vapour density:	N.A.	--
Relative density:	N.A.	--
Solubility in water:	solubile	--
Solubility in oil:	parziale	--
Partition coefficient (n-octanol/water):	N.A.	--
Auto-ignition temperature:	> 300 °C	--
Decomposition temperature:	N.A.	--
Viscosity:	N.A.	--
Explosive properties:	Prodotto non esplosivo	--
Oxidizing properties:	N.A.	--

### 9.2. Other information

Properties	Value	Method:
Miscibility:	N.A.	--
Fat Solubility:	N.A.	--
Conductivity:	N.A.	--
Substance Groups relevant properties	N.A.	--

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions. No hazardous reaction are expected under normal use conditions.

### 10.2. Chemical stability

Pressurized container. Do not perforate nor burn, even after use. Protect from direct sunlight. Do not expose to temperature exceeding 50°C/122°F. Refer to section 7 for information regarding handling and storage.

### 10.3. Possibility of hazardous reactions

No hazardous reaction are expected under normal use conditions. Vapours may form explosive mixtures with air. Aerosol containers may deform, explode and be thrown far away if exposed to temperature exceeding 50°C.

### 10.4. Conditions to avoid

Avoid exposure to sunlight. Avoid overheating and temperatures >50°C. Keep away from oxidizing agents.

### 10.5. Incompatible materials

Avoid contact with combustive agents. The product could catch fire. Avoid strong reducing and oxidising agents, strong acid and alkalis, warm object/materials.

### 10.6. Hazardous decomposition products

The product doesn't decompose under normal conditions. See section 5 for thermal decomposition.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Toxicological information of the product:

SPIRIT 64

#### a) acute toxicity

Not classified

Based on available data, the classification criteria are not met

#### b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

#### c) serious eye damage/irritation

Not classified

Based on available data, the classification criteria are not met

#### d) respiratory or skin sensitisation

Not classified

Based on available data, the classification criteria are not met

# Safety Data Sheet

## SPIRIT 64

- e) germ cell mutagenicity  
Not classified  
Based on available data, the classification criteria are not met
  - f) carcinogenicity  
Not classified  
Based on available data, the classification criteria are not met
  - g) reproductive toxicity  
Not classified  
Based on available data, the classification criteria are not met
  - h) STOT-single exposure  
Not classified  
Based on available data, the classification criteria are not met
  - i) STOT-repeated exposure  
Not classified  
Based on available data, the classification criteria are not met
  - j) aspiration hazard  
Not classified  
Based on available data, the classification criteria are not met
- Toxicological information of the main substances found in the product:  
propan-2-ol - CAS: 67-63-0
- a) acute toxicity:
    - Test: LD50 - Route: Oral - Species: Rat = 5338 mg/kg
    - Test: LC50 - Route: Inhalation - Species: Rat = 72.6 mg/l - Duration: 4h
    - Test: LD50 - Route: Skin - Species: Rabbit = 1184 mg/kg

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### SECTION 12: Ecological information

- 12.1. Toxicity
  - Adopt good working practices, so that the product is not released into the environment.
  - SPIRIT 64
  - Not classified for environmental hazards
  - Based on available data, the classification criteria are not met
- propan-2-ol - CAS: 67-63-0
  - a) Aquatic acute toxicity:
    - Endpoint: LC50 - Species: Fish = 9640 mg/l - Duration h: 96 - Notes: Pimephakes promelas
    - Endpoint: EC50 - Species: Daphnia = 13299 mg/l - Duration h: 48
    - Endpoint: EC50 - Species: Algae > 1000 mg/l - Duration h: 96
- 12.2. Persistence and degradability
  - None
  - N.A.
- 12.3. Bioaccumulative potential
  - N.A.
- 12.4. Mobility in soil
  - N.A.
- 12.5. Results of PBT and vPvB assessment
  - vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects
  - None

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### SECTION 13: Disposal considerations

- 13.1. Waste treatment methods
    - Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.
- Additional disposal information:

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### SECTION 14: Transport information

- 14.1. UN number
  - ADR-UN number: 1950
  - IATA-Un number: 1950
  - IMDG-Un number: 1950
- 14.2. UN proper shipping name

# Safety Data Sheet

## SPIRIT 64

ADR-Shipping Name:	AEROSOLS, Flammable
IATA-Technical name:	AEROSOLS, Flammable
IMDG-Technical name:	AEROSOLS, Flammable
Limited Quantity: max 1000ml	Total gross mass of package not exceed 30 kg LQ2
14.3. Transport hazard class(es)	
ADR-Class:	2, 5F
ADR-Label:	Limited Quantity
IATA-Class:	2
IATA-Label:	2.1
IMDG-Class:	2
14.4. Packing group	
IMDG-Packing group:	- - -
14.5. Environmental hazards	
Marine pollutant:	No
14.6. Special precautions for user	
IMDG-Technical name:	AEROSOLS, Flammable Limited Quantity: max 1000ml Total gross mass of package not exceed 30 kg LQ2
IMDG-EMS:	F-D
IMDG-MFAG:	S-U
14.7. Transport in bulk according to Annex II of Marpol and the IBC Code	
N.A.	

### SECTION 15: Regulatory information

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

- Dir. 98/24/EC (Risks related to chemical agents at work)
- Dir. 2000/39/EC (Occupational exposure limit values)
- Regulation (EC) n. 1907/2006 (REACH)
- Regulation (EC) n. 1272/2008 (CLP)
- Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
- Regulation (EU) 2015/830
- Regulation (EU) n. 286/2011 (ATP 2 CLP)
- Regulation (EU) n. 618/2012 (ATP 3 CLP)
- Regulation (EU) n. 487/2013 (ATP 4 CLP)
- Regulation (EU) n. 944/2013 (ATP 5 CLP)
- Regulation (EU) n. 605/2014 (ATP 6 CLP)
- Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

None

Where applicable, refer to the following regulatory provisions :

- Directive 2012/18/EU (Seveso III)
- Regulation (EC) nr 648/2004 (detergents).
- Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

- Seveso III category according to Annex 1, part 1
- Product belongs to category: P3a

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

### SECTION 16: Other information

Full text of phrases referred to in Section 3:

- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H225 Highly flammable liquid and vapour.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.

Hazard class and hazard category	Code	Description
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# Safety Data Sheet

## SPIRIT 64

Flam. Gas 1	2.2/1	Flammable gas, Category 1
Aerosols 1	2.3/1	Aerosol, Category 1
Press. Gas	2.5	Gases under pressure
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3

Paragraphs modified from the previous revision:

SECTION 1: Identification of the substance/mixture and of the company/undertaking  
 SECTION 3: Composition/information on ingredients  
 SECTION 4: First aid measures  
 SECTION 5: Firefighting measures  
 SECTION 6: Accidental release measures  
 SECTION 8: Exposure controls/personal protection  
 SECTION 9: Physical and chemical properties  
 SECTION 11: Toxicological information  
 SECTION 12: Ecological information  
 SECTION 13: Disposal considerations  
 SECTION 14: Transport information  
 SECTION 15: Regulatory information  
 SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Aerosols 1, H222+H229	On basis of test data

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
 CAS: Chemical Abstracts Service (division of the American Chemical Society).  
 CLP: Classification, Labeling, Packaging.  
 DNEL: Derived No Effect Level.  
 EINECS: European Inventory of Existing Commercial Chemical Substances.  
 GefStoffVO: Ordinance on Hazardous Substances, Germany.  
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
 IATA: International Air Transport Association.  
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
 ICAO: International Civil Aviation Organization.  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
 IMDG: International Maritime Code for Dangerous Goods.  
 INCI: International Nomenclature of Cosmetic Ingredients.  
 KSt: Explosion coefficient.  
 LC50: Lethal concentration, for 50 percent of test population.  
 LD50: Lethal dose, for 50 percent of test population.  
 N.A.: Not available  
 PNEC: Predicted No Effect Concentration.  
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
 STEL: Short Term Exposure limit.  
 STOT: Specific Target Organ Toxicity.  
 TLV: Threshold Limiting Value.



# Safety Data Sheet

## SPIRIT 64

TWA: Time-weighted average  
WGK: German Water Hazard Class.