

### Safety data sheet according to 1907/2006/EC, Article 31

Printing date 14.12.2016

Version number 4

Revision: 14.12.2016

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

- **1.1 Product identifier**
- **Product name:** KS183 - QA2 - MO1 - P3 - Nitric Acid / 0.63 N Nitric Acid
- **Catalog number:** 56Z018398, 56L018330, 56L018365, 56U018330, 56U018365
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:** Reagent for water analysis
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**  
Tintometer GmbH  
Schleefstr. 8-12  
DE-44287 Dortmund  
Made in Germany  
www.lovibond.com
- **Informing department:**  
e-mail: produktsicherheit@tintometer.de  
Product Safety Department
- **Contact for technical details:**  
Technical Department  
e-mail: technik@tintometer.de
- **1.4 Emergency telephone number:**  
Poison Center Berlin, Germany  
phone: 0049-30 30686 790  
Languages: English and German

phone: +49 (0) 231 945100  
E-Mail: sales@tintometer.de

#### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.  
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
nitric acid
- **Hazard statements**  
H290 May be corrosive to metals.  
H315 Causes skin irritation.

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H318 Causes serious eye damage.

**Precautionary statements**

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a doctor.

P390 Absorb spillage to prevent material damage.

**2.3 Other hazards** No further relevant information available.



**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**
**Description:** aqueous solution

**Dangerous components:**

CAS: 7697-37-2 EINECS: 231-714-2 Index No: 007-004-00-1 Reg.nr.: 01-2119487297-23-XXXX	nitric acid	 Ox. Liq. 2, H272;  Met. Corr.1, H290; Skin Corr. 1A, H314	3-<5%
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**Additional information** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures**
**General information** Instantly remove any clothing soiled by the product.

**After inhalation** Supply fresh air.

**After skin contact**

Instantly rinse with water.

If skin irritation continues, consult a doctor.

**After eye contact**

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

**After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

Seek medical treatment.

**4.2 Most important symptoms and effects, both acute and delayed:**

irritations

after inhalation:

coughing

breathing difficulty

mucous membrane irritation

after swallowing:

diarrhoea

pain

after absorption of large amounts:

methaemoglobinaemia

**4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**
**Suitable extinguishing agents** Use fire fighting measures that suit the environment.

**5.2 Special hazards arising from the substance or mixture**

The product is not combustible.

Formation of toxic gases is possible during heating or in case of fire.

nitrous gases

nitrogen oxides (NOx)

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**5.3 Advice for firefighters**
**Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

**Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

## SECTION 6: Accidental release measures

**6.1 Personal precautions, protective equipment and emergency procedures**
**Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Advice for emergency responders: Protective equipment: see section 8**
**6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

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

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

**6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

## SECTION 7: Handling and storage

**7.1 Precautions for safe handling**
**Advice on safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Hygiene measures:**

Avoid contact with the skin.

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

**7.2 Conditions for safe storage, including any incompatibilities**
**Storage**
**Requirements to be met by storerooms and containers:** Store in cool location.

**Information about storage in one common storage facility:** Store away from metals.

**Further information about storage conditions:**

Keep container tightly sealed.

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

**Recommended storage temperature:** 20 °C +/- 5 °C

**7.3 Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls/personal protection

**8.1 Control parameters**
**Components with limit values that require monitoring at the workplace:**
**CAS: 7697-37-2 nitric acid**

WEL (Great Britain)	Short-term value: 2.6 mg/m <sup>3</sup> , 1 ppm
IOELV (European Union)	Short-term value: 2.6 mg/m <sup>3</sup> , 1 ppm
OEL (Sweden)	Short-term value: 2.6 mg/m <sup>3</sup> , 1 ppm Long-term value: 1.3 mg/m <sup>3</sup> , 0.5 ppm

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**Regulatory information**

WEL (Great Britain): EH40/2011

IOELV (European Union): 91/322/EEC, 2000/39/EC, 2006/15/EC

OEL (Sweden): AFS2011:18

**DNELs**

Derived No Effect Level (DNEL)

**CAS: 7697-37-2 nitric acid**

Inhalative	DNEL	1.3 mg/m <sup>3</sup> (Worker / long-term / local effects)
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**Recommended monitoring procedures:**

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

**Additional information:** The lists that were valid during the compilation were used as basis.

**8.2 Exposure controls**
**Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

**Personal protective equipment**
**Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

**Recommended filter device for short term use:** Filter B

**Protection of hands:**

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

**Material of gloves**

nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  mm
**Penetration time of glove material**

Value for the permeation: Level = 1 ( &lt; 10 min )

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**Limitation and supervision of exposure into the environment:** Do not allow product to reach sewage system or water bodies.

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**
**Appearance:**
**Form / Physical state:**

Fluid

**Colour:**

Colourless

**Odour:**

Odourless

**Odour threshold:**

Not applicable

**pH-value at 20 °C:**

2

**Melting point/Freezing point:**

Not applicable

**Initial boiling point and boiling range:** Not determined

**Flash point:**

Not applicable

**Flammability (solid, gas):**

Not applicable.

**Decomposition temperature:**

Not determined.

**Auto-ignition temperature:**

Product is not self-igniting.

**Explosive properties:**

Product is not explosive.

**Flammability or explosive limits:**
**Lower:**

Not applicable

**Upper:**

Not applicable

**Oxidising properties:**

none

**Vapour pressure:**

Not determined.

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· <b>Density at 20 °C:</b>	1.02 g/cm <sup>3</sup>
· <b>Relative density:</b>	Not determined.
· <b>Vapour density:</b>	Not determined.
· <b>Evaporation rate:</b>	Not determined.
· <b>Solubility(ies):</b>	
<b>Water:</b>	Fully miscible
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Water:</b>	> 95 %
· <b>9.2 Other information</b>	.
· <b>Metal corrosion rate:</b>	acc. to "Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Fifth revised Edition"
· <b>steel:</b>	107 mm/a

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
  - Corrosive action on metals
  - Reacts with metals forming hydrogen (--> Explosive!)
  - Reacts with reducing agents
  - Reacts with acids and alkali (lyes).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
  - metals
  - alkali metals
  - Ammonia (NH<sub>3</sub>)
  - organic solvents
- **10.6 Hazardous decomposition products:** see section 5

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

#### · **LD/LC50 values that are relevant for classification:**

##### **CAS: 7697-37-2 nitric acid**

Oral	LDLo	430 mg/kg (hmn) (IUCLID)
Inhalative	LC50.	28 mg/l/4h (rat) (MERCK - IUCLID)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
  - Causes skin irritation.
- **Serious eye damage/irritation**
  - Causes serious eye damage.
  - Risk of corneal clouding.
- **Information on components:** CAS 7697-37-2: chronic: dermatitis
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.

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- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

**CAS: 7697-37-2 nitric acid**

LC50	72 mg/l/96h (mosquitofish) (IUCLID)
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#### · 12.2 Persistence and degradability .

##### · Other information:

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

#### · 12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

log Pow &lt; 1 = Does not accumulate in organisms.

**CAS: 7697-37-2 nitric acid**

log Pow	-2.3 (.)
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#### · 12.4 Mobility in soil

No further relevant information available.

#### · 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

#### · 12.6 Other adverse effects

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of water supplies.

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Avoid transfer into the environment.

#### · Water hazard:

Mixture (Self-assessment acc. VwVwS Annex 4, German regulation):

Water hazard class 1: slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

#### · 13.1 Waste treatment methods

##### · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

##### · European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing dangerous substances
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##### · Uncleaned packagings:

##### · Recommendation:

Disposal must be made according to official regulations.

##### · Recommended cleaning agent:

Water, if necessary with cleaning agent.

### SECTION 14: Transport information

#### · 14.1 UN-Number

##### · ADR, RID, IMDG, IATA

UN3264

#### · 14.2 UN proper shipping name

##### · ADR/RID

3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

##### · IMDG

CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

##### · IATA

Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)

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<b>· 14.3 Transport hazard class(es)</b> <b>· ADR/RID</b>	
	
<b>· Class</b> <b>· Label</b>	8 (C1) Corrosive substances. 8
<b>· IMDG, IATA</b>	
	
<b>· Class</b> <b>· Label</b>	8 Corrosive substances. 8
<b>· 14.4 Packing group</b> <b>· ADR, RID, IMDG, IATA</b>	III
<b>· 14.5 Environmental hazards:</b> <b>· Marine pollutant:</b>	No
<b>· 14.6 Special precautions for user</b> <b>· Kemler Number:</b> <b>· EMS Number:</b> <b>· Stowage Category</b> <b>· Stowage Code</b>	Warning: Corrosive substances. 80 F-A, S-B A SW2 Clear of living quarters.
<b>· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
<b>· Transport/Additional information:</b>	
<b>· ADR/RID</b> <b>· Limited quantities (LQ)</b> <b>· Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<b>· Transport category</b> <b>· Tunnel restriction code</b>	3 E
<b>· IMDG</b> <b>· Limited quantities (LQ)</b> <b>· Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

## SECTION 15: Regulatory information

**· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
**· Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals:**

None of the ingredients is listed.

**· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**

None of the ingredients is listed.

**· Directive 2012/18/EU (SEVESO III):**
**· Named dangerous substances - ANNEX I** nitric acid

**· REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

**· Information about limitation of use:** Employment restrictions concerning young persons must be observed.

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H272 May intensify fire; oxidiser.  
 H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.

- **Training hints** Provide adequate information, instruction and training for operators.

- **Abbreviations and acronyms:**

EC50: effective concentration, 50 percent (in vivo)  
 OECD: Organisation for Economic Co-operation and Development  
 STOT: specific target organ toxicity  
 SE: single exposure  
 RE: repeated exposure  
 EC50: half maximal effective concentration  
 IC50: half maximal inhibitory concentration  
 NOEL or NOEC: No Observed Effect Level or Concentration  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 DNEL: Derived No-Effect Level (REACH)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Ox. Liq. 2: Oxidizing liquids – Category 2  
 Met. Corr. 1: Corrosive to metals – Category 1  
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1

- **Sources** Data arise from safety data sheets, reference works and literature.

- **\* Data compared to the previous version altered.**