

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

#### 1.1. Product identifier

Product form	: Substance
Name	: Hans Raab Kalkex
EC-No.	: 201-069-1
CAS-No.	: 77-92-9
REACH registration No	: 01-2119457026-42
Product code	: 05.00939.31.1-007
Type of product	: Detergent
Product group	: Trade product

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### 1.2.1. Relevant identified uses

Intended for general public	
Main use category	: This product is intended for public and professional use.
Use of the substance/mixture	: Descaling products
Function or use category	: Cleaning/washing agents and additives

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Ha-Ra GmbH  
Lichtenkopfer Weg 1  
66450 Bexbach  
Deutschland  
T +49 (0) 6826 97089-0  
[info@ha-ra.de](mailto:info@ha-ra.de) - [www.ha-ra.com](http://www.ha-ra.com)

#### 1.4. Emergency telephone number

Country	Official advisory body	Address	Emergency number	Comment
Germany	Giftinformationszentrum-Nord der Länder Bremen, Hamburg, Niedersachsen und Schleswig-Holstein (GIZ-Nord) Universitätsmedizin Göttingen - Georg-August-Universität	Robert-Koch Straße 40 37075 Göttingen	+49 (0) 551 19240	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 2	H319
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H- and EUH-statements: see section 16

##### Adverse physicochemical, human health and environmental effects

May cause respiratory irritation. Causes serious eye irritation.

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

Precautionary statements (CLP) :

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P261 - Avoid breathing dust.

P264 - Wash hands thoroughly after handling.

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

P337+P313 - If eye irritation persists: Get medical advice/attention.

P405 - Store locked up.

### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : citric acid  
CAS-No. : 77-92-9  
EC-No. : 201-069-1

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
citric acid	CAS-No.: 77-92-9 EC-No.: 201-069-1 EC Index-No.: 607-750-00-3 REACH-no: 01-2119457026-42	100	Eye Irrit. 2, H319 STOT SE 3, H335

Full text of H- and EUH-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after eye contact	: Eye irritation.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Strong water jet.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
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### 5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Ventilate spillage area. Evacuate unnecessary personnel. Avoid breathing dust. Avoid contact with skin and eyes.
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#### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Mechanically recover the product. On land, sweep or shovel into suitable containers. Minimise generation of dust.
Other information	: Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid breathing dust. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container closed when not in use. Store locked up.
- Incompatible products : Strong bases.
- Storage class (LGK, TRGS 510) : LGK 13 - Non-combustible solids

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

citric acid (77-92-9)	
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	2 mg/m <sup>3</sup> (E)
Peak exposure limitation factor	2(I)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900

##### 8.1.2. Recommended monitoring procedures

No additional information available

##### 8.1.3. Air contaminants formed

No additional information available

##### 8.1.4. DNEL and PNEC

No additional information available

##### 8.1.5. Control banding

No additional information available

#### 8.2. Exposure controls

##### 8.2.1. Appropriate engineering controls

**Appropriate engineering controls:**

Ensure good ventilation of the work station.

##### 8.2.2. Personal protection equipment

**Personal protective equipment:**

Avoid all unnecessary exposure.

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### 8.2.2.1. Eye and face protection

**Eye protection:**

Sealed safety goggles. EN 166

### 8.2.2.2. Skin protection

**Skin and body protection:**

Wear suitable protective clothing

**Hand protection:**

In case of repeated or prolonged contact wear gloves

Hand protection					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Chemically resistant protective gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	≥0.3	3 (> 0.65)	EN ISO 374
	Butyl rubber	6 (> 480 minutes)	≥ 0.5	3 (> 0.65)	

### 8.2.2.3. Respiratory protection

**Respiratory protection:**

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. [In case of inadequate ventilation] wear respiratory protection.

Respiratory protection			
Device	Filter type	Condition	Standard
Dust mask	Type P2		

### 8.2.2.4. Thermal hazards

No additional information available

### 8.2.3. Environmental exposure controls

**Environmental exposure controls:**

Avoid release to the environment.

**Other information:**

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Colour	: white.
Molecular mass	: 192.124 g/mol
Odour	: odourless.
Odour threshold	: Not available
Melting point	: 153 °C
Freezing point	: Not applicable
Boiling point	: decomposes
Flammability	: Non flammable.
Explosive limits	: 0.0028 vol %
Lower explosive limit (LEL)	: Not applicable
Upper explosive limit (UEL)	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not available
pH	: 1.7 (100 g/l)
pH solution	: Not available

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Viscosity, kinematic	: Not applicable
Solubility	: Water: 592000 mg/l
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: < 0.001 Pa 25°C
Vapour pressure at 50 °C	: Not available
Density	: 1.655 g/cm <sup>3</sup>
Relative density	: Not applicable
Relative vapour density at 20 °C	: Not applicable
Particle size	: Not available
Particle size distribution	: Not available
Particle shape	: Not available
Particle aspect ratio	: Not available
Particle aggregation state	: Not available
Particle agglomeration state	: Not available
Particle specific surface area	: Not available
Particle dustiness	: Not available

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Not established.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

Strong bases. Strong oxidizing agent.

### 10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### Hans Raab Kalkex (77-92-9)

LD50 oral	11700 mg/kg bodyweight
LD50 dermal	> 2000 mg/kg bodyweight

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citric acid (77-92-9)	
LD50 oral	11700 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal	> 2000 mg/kg bodyweight

Skin corrosion/irritation	: Not classified pH: 1.7 (100 g/l)
Serious eye damage/irritation	: Causes serious eye irritation. pH: 1.7 (100 g/l)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.

citric acid (77-92-9)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

citric acid (77-92-9)	
LOAEL (oral, rat, 90 days)	8000 mg/kg bodyweight Animal: rat
NOAEL (oral, rat, 90 days)	4000 mg/kg bodyweight Animal: rat

Aspiration hazard : Not classified

Hans Raab Kalkex (77-92-9)	
Viscosity, kinematic	Not applicable

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Hans Raab Kalkex (77-92-9)	
LC50 - Fish [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	85 mg/l waterflea

citric acid (77-92-9)	
LC50 - Fish [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	85 mg/l waterflea

### 12.2. Persistence and degradability

Hans Raab Kalkex (77-92-9)	
Persistence and degradability	Not established.

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### 12.3. Bioaccumulative potential

#### Hans Raab Kalkex (77-92-9)

Bioaccumulative potential	Not established.
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#### citric acid (77-92-9)

Partition coefficient n-octanol/water (Log Pow)	-1.72
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### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

#### Hans Raab Kalkex (77-92-9)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Additional information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Avoid direct discharge into drains.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Bring contents / container back to the point of sale or to a collective setting for special waste.
Ecology - waste materials	: Avoid release to the environment.
European List of Waste (LoW) code	: 20 01 29* - detergents containing dangerous substances 20 03 99 - municipal wastes not otherwise specified

## SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable



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ADR	IMDG	IATA	ADN	RID
No supplementary information available				

### 14.6. Special precautions for user

#### Overland transport

Not applicable

#### Transport by sea

Not applicable

#### Air transport

Not applicable

#### Inland waterway transport

Not applicable

#### Rail transport

Not applicable

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Hans Raab Kalkex is not on the REACH Candidate List

Hans Raab Kalkex is not on the REACH Annex XIV List

Hans Raab Kalkex is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Hans Raab Kalkex is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

#### 15.1.2. National regulations

##### Germany

Employment restrictions : No employment prohibitions or restrictions according to MuSchG based on substance classification.

Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV; ID No. 57)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	Supersedes	Modified	

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Indication of changes			
Section	Changed item	Change	Comments
	Revision date	Modified	
1.1	Product form	Modified	
1.1	EC-No.	Added	
1.1	CAS-No.	Added	
1.1	Product code	Modified	
1.2	Use of the substance/mixture	Added	
2.1	Adverse physicochemical, human health and environmental effects	Added	
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Modified	
2.2	Precautionary statements (CLP)	Modified	
2.2	Hazard statements (CLP)	Modified	
3	Composition/information on ingredients	Modified	
7.2	Storage class (LGK)	Added	
8.2	Hand protection	Added	
8.2	Respiratory protection	Added	
8.2	Eye protection	Added	
9.1	Solubility in water:	Added	
9.1	Melting point	Added	
9.1	Density	Added	
9.1	Auto-ignition temperature	Added	
9.1	pH	Added	
9.1	Relative density	Added	
9.1	Explosive limits (vol %)	Added	
10.5	Incompatible materials	Modified	
12.1	Ecology - general	Added	
13.1	Waste disposal recommendations	Modified	
13.1	European List of Waste (LoW) code	Added	
13.1	Sewage disposal recommendations	Added	
13.1	Waste treatment methods	Added	
15.1	Employment restrictions	Added	

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Full text of H- and EUH-statements:	
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.