


SAFETY DATA SHEET**KOFA GRAIN – pH5 -**

KOFA GRAIN – pH5 - contains propionic acid

1. Identification of the substance / preparation and company / undertaking

Product name	KOFA GRAIN – pH5 -		
Chemical product name	Solution of propionic acid, sodium propionate and sodium benzoate.		
Synonyms	1a700		
Manufacturer	ADDCON EUROPE GmbH Säurestr. 1, Areal E D-06749 Bitterfeld-Wolfen Germany	Supplier	ADDCON GmbH Joseph-Schumpeter-Alle 25 D-53227 Bonn GERMANY [E] info@addcon.com
Emergency Telephone number	+49 (0) 3493 899899 5 (office hours: Mo – Fr, 8:00 a.m. – 5:00 p.m.; German, English speaker)		
e-mail-address of person responsible for this SDS	thomas.ohlmann@addcon.com		
Recommended use	Silage additive; preservative for high-moisture grain and hay, by-products of food production and other animal feeding stuffs		

2. Hazards identification

Classification	Xi, irritating		H318 – causes serious eye damage, Cat. 1
Human health hazards	Risk for serious damage to eyes. P280 P305 + 351 + 338	DANGER Causes serious eye damage. Wear protective gloves / protective clothing / eye protection / face protection IF INEYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
Environmental hazards	Causing damage in consequence of pH- shift in water.		
Physical / chemical hazards	May cause corrosive at metals (iron, base metals).		

3. Composition / information on ingredients

Substance / preparation : preparation

Chemical name	CAS no.	%	EC- no. *	classification
Propionic acid See section 16 for the full text of the R-phrases declared above.	79-09-4	~ 40	201-176-3	Danger, GHS05; skin 1B; H 226 / 314
Sodium benzoate See section 16 for the full text of the R-phrases declared above.	532-32-1	≈ 14	208-534-8	GHS07; H319 Eye irritation Kat.2
Sodium propionate See section 16 for the full text of the R-phrases declared above.	137-40-6	≈ 11	205-290-4	GHS07; H312 acut tox.4

* EC-No. means EINECS- or ELINCS-number.

4. First-aid measures**Effects and symptoms**

Inhalation	Over-exposure by inhalation (vapour) may cause respiratory irritation (coughing).
Ingestion	Ingestion of the product may cause irritation and discomfort.
Skin contact	There is no known acute effect after over-exposure to this product.
Eye contact	Serious eye damage.
First-aid measures	
General	Move exposed person to fresh air. Remove contaminated soaked clothing immediately.
Inhalation	If inhaled, remove to fresh air. Obtain medical attention if symptoms occur.
Ingestion	If swallowed, rinsed mouth with water (only if the person is conscious). Drink plenty of water. Attention: Beware, danger of aspiration. Do not induce vomiting. Obtain medical attention if symptoms occur.
Skin contact	Rinse with plenty of running water. Remove contaminated clothes and shoes. Obtain medical attention if symptoms occur.

4. First-aid measures

Eye contact	Rinse immediately with plenty of running water. Consult medical attention for eyes immediately.
First-aid facilities:	No special recommendations.

5. Fire-fighting measures

Extinguishing media	
Small fire suitable	
Large fire suitable	Foam, carbon dioxide (CO ₂), dry chemical, water-spray
Unusual fire / explosion hazards	Based on the available data of this product no hazardous properties are known. Cool containers at risk with water-spray jet.
Hazardous thermal decomposition products	In case of fire, may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, sodium oxide.
Special fire-fighting procedures	No special measures required.
Protection of fire-fighters	Wear suitable protective clothing. Self-contained breathing apparatus.

6. Accidental release measures

Personal precautions	Ensure good ventilation. Avoid formation of vapour and inhalation of vapour. Use personal protective clothing. See protective measures under point 7 and 8.
Environmental precautions	Do not allow to enter drains/surface water/ground-water.
Clean-up methods	
Small spill and leak	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder).
Large spill and leak	Shovel into suitable container for disposal.

Note: See section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

Handling	Use with adequate ventilation. Keep container tightly closed. Avoid contact with skin, eyes and clothing. No special technical protective measures are necessary. Store container tightly closed in a dry, cool and well-ventilated area (due to limited adsorption properties).
Storage	The product has been produced and packaged in accordance with strict quality practices. Maintain this quality level by storing this product away from other chemicals. Keep away from food and beverages.
Remarks	The product should be handled with the care usual when dealing with chemicals. Storage not together with: oxidizing reagents, bases Storage class (VCI): 12
Packaging materials	
Suitable	Polyethylene or Material, chemical-resistant.

Note: See section 10 for stability and reactivity.

8. Exposure controls / personal protection

Engineering measures	See section 7. No additional measures necessary.
Hygiene measures	When using does not eat, drink or smoke. Wash hands after handling compounds and before eating, smoking and using the lavatory at the end of the day. -German TRGS 900 – propionic acid: 10ml/m ³ / 31mg/m ³ -WEL (STEL 15min) – propionic acid: 15ml/m ³ / 46mg/m ³

	substance	values		SPG	basics	remarks
		ml/m ³	mg/m ³			
Airborne Exposure Limits:	Propionic acid	10	31		MAK /TRGS 900	
		15	46		WEL	STEL 15min
			2,1	DNEL	Allgemeine Personen	Langzeitinhalation, systemische Effekte
			10,4	DNEL	Beschäftigte	
			1,3	DNEL	Allgemeine Personen	Langzeitinhalation, lokale Effekte
	6,3	DNEL	Beschäftigte			

Personal protective equipment – Production scale

Respiratory system	Breathing protection if breathable aerosols/dust is formed. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).
Skin and body	Long working clothes

8. Exposure controls / personal protection

Eyes	Eye wash bottle with pure water. Safety glasses with side shields. Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact and other.
Hands	Supplementary note: The specifications are based on own tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the determined permeation time.
Recommended material(s)	> 8 hours (breakthrough time): butyl rubber, neoprene, Viton, PVC. Replace damaged gloves.

Advice on personal protection is applicable for high exposure levels. Select proper personal protection based on a risk assessment of the actual situation.

9. Physical and chemical properties

Physical state	liquid
Colour	Colourless - reddish
Odour	Slightly pungent
pH	4.9 – 5.1
Boiling point	> 100 °C
Melting point	< -10 °C
Flash point	Not available.
Lower explosion limit	Not available.
Upper explosion limit	Not available.
Auto-ignition temperature	Not available.
Density (g/cm³)	1.12
Vapour pressure	< 17.1 hPa
Solubility in water	Not soluble
Solubility	Easy soluble in the following materials: propionic acid. Partially soluble in the following materials: methanol.
Molecular weight	Not available
Minimum ignition energy	Not available.
Dust explosion class	Not available.
Remarks	More detailed information on the physical and chemical properties can be requested from the supplier.

10. Stability and reactivity

Stability	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	To avoid thermal decomposition, do not overheat. Heating can release vapours which can be ignited.
Materials to avoid	Oxidizing substances, bases; water; base metals
Hazardous decomposition products	In case of fire: see section 5.

11. Toxicological information

Potential acute health effects

Inhalation	Vapour may irritate respiratory tract and lungs.
Ingestion	May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Skin contact	There is no known acute effect after over-exposure to this product.
Eye contact	Risk of serious damage to eyes.

Acute toxicity

Product / ingredient name	Result	Species	Dose	Exposure
Propionic acid	LD50 oral	rat	2600 mg/kg	-
	LD50 dermal	rabbit	500 mg/kg	4 hours

11. Toxicological information

Primary irritation

Product / ingredient name	Test	Species	Evaluation	Method
GRAIN liquid	skin	Rabbit	Not irritant	OECD 404
KOFA® GRAIN –pH5-	In-vitro (corrositex)		Non corrosive	

Sensitization No sensitizing effect admits. [OECD Guideline 406]

Potential chronic health effects

Chronic effects No known significant effects or critical hazards.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Teratogenicity No known significant effects or critical hazards.

Developmental effects No known significant effects or critical hazards.

Fertility effects No known significant effects or critical hazards.

Conclusion / summary No indications for carcinogenicity. No indications for reproduction toxicity. The product has not been tested. The statement has derived from products of similar structure and composition.

12. Ecological information

Environmental effects Readily biodegradable. This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product / ingredient name	Test	Result	Species	Exposure
propionic acid	Mortality	Acute LC50 4740 mg/l	Fish	96 hours
	Mortality	Acute EC50 130 mg/l	Daphnia	24 hours

Persistence / degradability Readily biodegradable (according to OECD criteria).
Elimination information:
Test method: OECD 301D; EEC 92/69, C.4-E (aerobic), activated sludge, domestic.
Method of analysis: BOD of the ThOD.

Other adverse effects No known significant effects or critical hazards.

AOX The product does not contain organically bound halogens which could lead to an AOX (Absorbable Organically bound Halogens) value in waste water.

Mobility Dissolves readily in water.

13. Disposal considerations

Methods of disposal (waste of residues; contaminated packaging) Waste must be disposed of in accordance with national and local environmental regulations.
Controlled biodegradation in waste water treatment is possible.
Unclean empty containers are to be handled as the substance contained itself.

14. Transport information

International transport regulations - NOT APPLICABLE -

Regulatory information	UN - Number	Proper shipping name	class	PG*	Label	Additional information
ADR/RID Class	-	-	-	-	-	-
ADNR Class					-	-
IMDG Class					-	-
IATA Class					-	-

PG* : Packing group

15. Regulatory information

Remarks The product has been labelled with dangerous substance: PROPIONIC ACID
Water contaminating class (germany): 1

16. Other information

Full text of R phrases referred to in sections 2 and 3 – United Kingdom (UK)	H226 – flammable liquid and vapour H312 – harmful in contact with skin H314 – causes severe skin burns and eye damage H315 – causes skin irritation H318 – causes serious eye damage H319 – causes serious eye irritation
Full text of classifications referred to in sections 2 and 3 – United Kingdom (UK)	Danger GHS07 - Warning GHS05 – corrosive
Information	Department QS, AS Tel.: +49 (0) 3493 899899 5
Internal code	SDB_pH5_E_0007

History

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Notice to reader

The information contained in the Safety Data Sheet is based on our data available on the date of publication. The information is intended to aid the user in controlling the handling risks; it is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications.

The user is responsible for ensuring that appropriate precautions are taken and for satisfying them that the data are suitable and sufficient for the product's intended purpose. In case of any unclarity we advise consulting the supplier or an expert.

Training advice

Handling of this substance or preparation is restricted to skilled personal only.

Source of key data

Literature data and/or investigation reports are available through the manufacturer.

Alterations compared to the previous version

Alterations compared to the previous version are marked with a little (blue) triangle.