

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identification

Product Name: SaffexCrocini (80 % ethanol v/v)

Botanical source: Crocus sativus L.

Relevant identified uses and non-recommended uses

Possible constituent of

- Aromas and Colorants
- Food and food supplements
- Pharmaceutical products
- Cosmetics

Non-recommended use:

None known

Details on the supplier of the MSDS

Knowledge Based company,
Crocini Extraction and Purification Department,
Iran

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SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

Classification (substance or mixture)

Directive 1272/2008/EC

Not classified as a dangerous good

Pictograms according to Directive 1272/2008/EC

No pictogram applicable.

Precautionary Statements:

Avoid contact with eyes, skin or clothes

Do not eat, drink or smoke when using this product

Wear protective gloves, protective clothing and eye protection while handling

If in the eyes, rinse cautiously with water for several minutes.

Remove contact lenses if present and easy to do. Continue rinsing.

Get medical attention if you feel unwell.

If on skin: Wash with plenty of soap and water.

Store in a dry place. Store in a closed container.

Protect from sunlight.

Other hazards

None known.

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable

SECTION 3 - COMPOSITION, INFORMATION OF INGREDIENTS

Chemical characterization:

• Description:

Saffron dry extract with 40-60 % Crocin

Chemical characterization: Herbal extract, minimum content 40% Crocin

Excipients: Maltodextrin

SECTION 4 - FIRST AID MEASURES

Description of first-aid measures

General advice:

Remove contaminated clothing. Consult your physician in case of impaired health

After Inhalation:

Remove to fresh air. Get medical attention if irritation occurs.

After Skin contact:

Rinse with water. Get medical attention if irritation develops.

After Eye contact:

Check for and remove contact lenses. Flush eyes with plenty of water for at least 15 minutes.

Get medical attention if irritation occurs.

Ingestion:

Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If symptoms of toxicity occur, call a physician.

Most important acute or delayed symptoms or effects

None known.

Indication of any immediate medical attention and special treatment needed

None known.

SECTION 5 - FIRE FIGHTING MEASURES

• Extinguishing media

• Suitable extinguishing agents:

Foam, CO₂, powder.

• Special hazards arising from the substance or mixture:

None known.

• Advice for firefighters:

Do not use water jet.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Accidental release of dusts and vapours which are damaging to health can be ruled out.

• Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes and skin.

Protective equipment for fire-fighters: See Section 8.

• Environmental precautions:

Dilute with water. No environmental risks are known. The product is fully biodegradable.

• Methods and material for containment and cleaning up:

In case of spills use conventional cleaning. Finish cleaning surfaces with water.

• Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7 - HANDLING AND STORAGE

Handling:

• Precautions for safe handling:

Keep away from heat.

Do not eat, drink or smoke during handling.

• Information about protection against explosions and fires:

No particular measures are required in the provided form.

• Conditions for safe storage, including any incompatibilities

• Storage:

Store in the original container. Keep container tightly closed.

Store at room temperature in a well-ventilated area with protection from light.

Avoid significant temperature variations in the storage area.

Recommended storage temperature: Ambient temperature.

Do not re-use the empty containers.

Specific end uses

As an ingredient for pharmaceutical, food or cosmetic products.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

Parameters for monitoring

None known. No limit concentrations for exposure have been defined.

Limitation and monitoring of exposure / Personal protective equipment

Technical protective measures:

Handle in a well-ventilated area.

Personal protective equipment:

Ocular protection: Wear standard laboratory safety glasses.

Skin protection: Wear standard lab coat and approved gloves. In case of spills remove contaminated clothing.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state and appearance: Dry powder.

Odour: Spicy, woody, typical of saffron



Colour: Brightly orange

pH-value: 6.5-7.5

Solubility: Fully soluble in water and ethanol-water mixtures.

Data relevant for safety:

Danger of explosion: The product is not explosive. Powders of organic substances can form explosive mixtures with air.

No known risk of explosion in the presence of mechanical impact.

No known risk of explosion in the presence of static discharge.

Ignition point: Not available.

Auto-ignition temperature: Not available.

Flash-point: Not available.

Melting point: Not applicable.

Boiling point: Not applicable.

Relative density: Not available.

Vapour pressure: Not applicable

Volatility: Not available

Solubility in / Miscibility with Water: Soluble.

Other indications

No other data on physical/chemical stability are available.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity

Incompatibilities with container materials or other substances have not been observed. The product is non-corrosive.

Chemical stability

Under usual storage conditions the product is expected to be stable for at least 18 months starting from delivery.

Possibility of dangerous reactions

No dangerous reactions are to be expected upon intended use.

Conditions to be avoided

None known.

Incompatible materials

None known.

Dangerous degradation products

None known.

SECTION 11 - TOXICOLOGICAL INFORMATION

• Information on toxicological effects

• Acute toxicity:

It has been shown that toxicological data on saffron safety is not uniform. Findings exhibited that LD50 values of saffron stigma and petal extracts were 1.6 and 6 g/kg, respectively in mice after IP exposure. The LD50 value of saffron was 4120 ± 556 mg/kg after oral administration in BALB/c mice. It has been found that oral administration of 3 g/kg crocin within 2 days in mice did not cause mortality. A similar result was observed after IP exposure at same dose. Crocin administration (IP) at 0.5, 1, 1.5, 2 and 3 g/kg did not induce any mortality after 24 and 48 hr. It can be concluded that crocin is a practically low-toxic



substance.

* Hossein Zadeh H, Shakib SS, Sameni AK, Taghiabadi E. Acute and subacute toxicity of safranal, a constituent of saffron, in mice and rats. Iran J Pharm Res 2013; 12:93-99.

* Hosseinzadeh H, Shariaty VM, Sameni AK, Vahabzadeh M. Acute and sub-acute toxicity of crocine, a constituent of *Crocus sativus* L (saffron), in mice and rats. Pharmacologyonline 2010; 2: 943-951.

• LD/LC50 values: Oral LD50 4120±556 mg/kg oral (rat)

Hosseinzadeh H, Shakib SS, Sameni AK, Taghiabadi E. Acute and subacute toxicity of safranal, a constituent of saffron, in mice and rats. Iran J Pharm Res 2013; 12:93-99.

• Primary irritant effect:

Not observed

• on the skin:

Not observed.

• on the eye:

Not observed.

• Sensitization:

The risk of sensitisation to saffron is very low. Only one case of an anaphylactic reaction to saffron stigmas has been reported.

*Bostan, H. B., Mehri, S., & Hosseinzadeh, H. (2017). Toxicology effects of saffron and its constituents: a review. Iranian journal of basic medical sciences, 20(2), 110.

*Lucas CD, Hallagan JB, Taylor SL. The role of natural color additives in food allergy. Adv Food Nutr Res 2001; 43:195-216.

*Moneret-Vautrin DA, Morisset M, Lemerdy P, Croizier A, Kanny G. Food allergy and IgE sensitization caused by spices: CICBAA data (based on 589 cases of food allergy). Allerg Immunol (Paris) 2002; 34(4):135-140.

*Wüthrich B, Schmid-Grendelmeyer P, Lundberg M. Anaphylaxis to saffron. Allergy 1997; 52(4):476-477.

• Additional toxicological information:

According to the long-standing experience with saffron as a food ingredient, toxicity is not to be expected.

• Carcinogenic categories

Not observed.

• IARC (International Agency for Research on Cancer)

Not observed.

• NTP (National Toxicology Program)

Not observed.

• OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

SECTION 12 - ECOLOGICAL INFORMATION

• Toxicity

• Aquatic toxicity: No further relevant information available.

• Persistence and degradability: The product is fully biodegradable.



- Behavior in environmental systems:
- Bioaccumulative potential No further relevant information available.
- Mobility in soil: No further relevant information available.
- Additional ecological information:
- General notes: No information is available on ecotoxic effects or biodegradation products. With regular handling no ecotoxic risk is to be expected.
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.
- Other adverse effects: Not applicable.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods

- Recommendation: Observe official regulations.
- Uncleaned packagings: Not applicable.

Attention:

Empty storage containers can be cleaned with water. Waste and containers must be disposed of in accordance with regulations for household waste. For residual quantities of the product destruction by incineration is recommended.

SECTION 14 - TRANSPORT INFORMATION

UN-Number

Not classified: not a dangerous good

Regular UN shipping label

ADR (Street)/RID (Railway): no restriction

IMDG-Code (Maritime transport): No restriction

ICAO-TI / IATA-DGR (Air freight): no restriction

Transport hazard class

ADR / RID / IMDG-Code / ICAO-TI / IATA-DGR

Class 3

Packaging class

III (Substances with minor hazard

Environmental risk

Labelling of substances with environmental hazards

ADR / RID / IMDG-Code: no

ICAO-TI / IATA-DGR: no

Specific precautions for users

See sections 6-8.

Mass transport according to Annex II of the MARPOL agreement 73/78 and according to IBC code
Shipment is exclusively made in individual containers suitable and admissible for transport.

SECTION 15 - REGULATORY INFORMATION

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
- Section 355 (extremely hazardous substances):
None of the ingredient is listed.
- Section 313 (Specific toxic chemical listings):



Not applicable

• TSCA (Toxic Substances Control Act):

Not applicable

• Hazardous Air Pollutants

Not applicable

• Proposition 65

• Chemicals known to cause cancer:

Not applicable

• Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

• Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

• Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

• TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

• NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

• National regulations:

• Information about limitation of use:

Employment restrictions concerning pregnant and lactating women must be observed.

If people have a medical condition (esp. bleeding disorder) or take medications, please consult with your doctor before use.

• Technical instructions (air): The emission values and limitations must be observed!

• Water hazard class:

WGK 1 (weak hazard; self-assessment).

• Other regulations, limitations and prohibitive regulations e.g.

Protective measures according to TRGS 500

Storage class according to TRGS 510: No restrictions

• Chemical safety assessment:

The product has not been subject of a safety assessment.

SECTION 16 - OTHER INFORMATION

This information is based on our present knowledge and we tried to be correct and accurate in the presentation of our information. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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