SAFETY DATA SHEET

Section 1. Identification

Product name: NOVACRON ORANGE F-BR
Product type: Solid.
Use of the substance/preparation: Textile dye
Supplier's details: Huntsman Textile Effects, Klybeckstrasse 200, CH 4057 Basel,
Telephone: +41 61 966 33 33
Emergency telephone number: Americas: +1 703 527 3887
Africa & Europe: +32 35751234
Asia & Pacific: +65 6336 6011
China: +86-20-3937 7888
India: + 91 22 40 506 333
USA & Canada: 800 424 9300

Information contact: pehs_te@huntsman.com
Product code: 00041748

Section 2. Hazards identification

Classification of the substance or mixture: SKIN SENSITIZATION - Category 1
GHS label elements
Signal word: Warning
Hazard statements: May cause an allergic skin reaction.
Precautionary statements:
Prevention: Wear protective gloves: <1 hours (breakthrough time): butyl or neoprene. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace.
Response: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs, seek medical advice/attention. Wash contaminated clothing before reuse.
Storage: Not applicable.
Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.
Symbol:

Section 3. Composition/information on ingredients

Substance/mixture: Mixture
Hazardous ingredients: Sodium 2-(4-(4-fluoro-6-(2-sulfoethylamino)-[1,3,5]triazin-2-ylamino)-2-ureidophenylazo)-5-(4-sulfophenylazo)benzene-1-sulfonate
CAS number: 146177-84-6
%: 30 - 60

Occupational exposure limits, if available, are listed in section 8.

Section 4. First-aid measures

Description of necessary first aid measures:
Inhalation: Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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Section 4. First-aid measures

Ingestion: Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Contaminated skin: Move contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Notes to physician: No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See toxicological information (section 11)

Section 5. Fire-fighting measures

Suitable: Use an extinguishing agent suitable for the surrounding fire.
Not suitable: None known.

Special hazards arising from the chemical: No specific fire or explosion hazard.

Decomposition products may include the following materials:
- phosphorus oxides
- metal oxide/oxides

Special precautions for fire-fighters: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Large spill: Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

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Section 7. Handling and storage

Precautions for safe handling: Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage, including any incompatibilities: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>No exposure limit value known.</td>
<td></td>
</tr>
</tbody>
</table>

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate engineering controls: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Environmental exposure controls: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand protection: <1 hours (breakthrough time): butyl or neoprene

Eye protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin protection: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 9. Physical and chemical properties

Appearance

Physical state: Solid. [granules]

Colour: Brown.

Odour: Odourless.

pH: 7 to 7.6 [Conc. (% w/w): 2%]

Melting point: >250°C

Boiling point: Not available.
Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility / Water</td>
<td>100 g/l</td>
</tr>
<tr>
<td>Octanol/water partition coefficient</td>
<td>&lt;-5</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
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</table>

Section 10. Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>The product is stable.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>No specific data.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</td>
</tr>
</tbody>
</table>

Section 11. Toxicological information

### Information on the likely routes of exposure

- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: May cause an allergic skin reaction.
- **Eye contact**: No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- **Inhalation**: Care should be taken to avoid inhalation. Cases of respiratory sensitisation have been observed with reactive dyes. Should an individual become sensitized a physician should be consulted and all contact with reactive dyes must cease immediately.

- **Ingestion**: No specific data.

- **Skin contact**: Adverse symptoms may include the following: irritation, redness

- **Eye contact**: No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVACRON ORANGE F-BR</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>&gt;2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

#### Potential chronic health effects

- **General**: No known significant effects or critical hazards.
- **Inhalation**: No known significant effects or critical hazards.
- **Ingestion**: No known significant effects or critical hazards.
- **Skin contact**: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- **Eye contact**: 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.
Section 12. Ecological information

Environmental effects: Not readily biodegradable. This product shows a low bioaccumulation potential.

Aquatic and terrestrial toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVACRON ORANGE F-BR</td>
<td>OECD 202</td>
<td>Acute EC50 &gt;1000 mg/L</td>
<td>Daphnia</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>OECD 209</td>
<td>Acute IC50 &gt;100 mg/L</td>
<td>Bacteria</td>
<td>3 hours</td>
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<tr>
<td></td>
<td>OECD 203 Fish, Acute Toxicity Test</td>
<td>Acute LC0 1000 mg/L</td>
<td>Fish - Common carp (Cyprinus carpio)</td>
<td>96 hours</td>
</tr>
<tr>
<td></td>
<td>OECD 203 Fish, Acute Toxicity Test</td>
<td>Acute LC50 &gt;1000 mg/L</td>
<td>Fish - Common carp (Cyprinus carpio)</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

Biodegradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVACRON ORANGE F-BR</td>
<td>OECD 301D</td>
<td>&lt;10 % - 28 days</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

Conclusion/Summary: Not readily biodegradable.

Biocumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVACRON ORANGE F-BR</td>
<td>&lt;-5</td>
<td>-</td>
<td>low</td>
</tr>
</tbody>
</table>

Section 13. Disposal considerations

Disposal methods: The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>Regulatory information</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Classes</th>
<th>PG*</th>
<th>Label</th>
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</thead>
<tbody>
<tr>
<td>UN Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>ADR/RID Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>IATA Class</td>
<td>Not regulated.</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>IMDG Class</td>
<td>Not regulated.</td>
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<td>-</td>
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</tr>
</tbody>
</table>

Remarks: PG*: Packing group

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Section 15. Regulatory information

EU Classification 2001/58/EC : Xi
Irritant
R43- May cause sensitisation by skin contact.
S22- Do not breathe dust.  S24- Avoid contact with skin.  S37- Wear suitable gloves.

Section 16. Other information

History
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Date of previous issue : No previous validation
Version : 1
Prepared by : Huntsman Textile Effects, EH&S, Klybeckstrasse 200, CH 4057 Basel:
peht_te@huntsman.com

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