

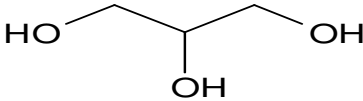


**SDFCL**  
S d FINE-CHEM LIMITED

Quality Control Dept.

Product Specification



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                              |
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| E Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | QC2\DATAD\DA\PS\20118XPS.xls                                                                 |
| PRODUCT CODE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20118                                                                                        |
| PRODUCT NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | GLYCEROL AR<br>(Meets the analytical specification of BP, USP Ph. Eur.)                      |
| SYNONYMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Glycerine                                                                                    |
| C.I. NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | N/A                                                                                          |
| CASR NO.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 56-81-5                                                                                      |
| ATOMIC OR MOLECULAR FORMULA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>                                                 |
| ATOMIC OR MOLECULAR WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 92.09                                                                                        |
| PROPERTIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Hygroscopic, Combustible.                                                                    |
| <div style="text-align: center;"></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                              |
| PARAMETER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | LIMIT                                                                                        |
| Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | A clear viscous liquid, not more than 10 Hazen units in colour.                              |
| Solubility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Miscible with water & with industrial methylated spirit forming clear & colourless solution. |
| Identification (By FTIR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Passes test.                                                                                 |
| Minimum assay (By GC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 99.5%                                                                                        |
| Wt.per ml at 20 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.257 - 1.261 g                                                                              |
| Refractive index (n) <sub>D</sub> <sup>20</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.471 - 1.473                                                                                |
| Reaction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | pH 6.0 - 7.0                                                                                 |
| MAXIMUM LIMIT OF IMPURITIES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                              |
| Sulphated ash                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.005%                                                                                       |
| Chloride (Cl)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.0001%                                                                                      |
| Sulphate (SO <sub>4</sub> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.0005%                                                                                      |
| Arsenic (As)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.0001%                                                                                      |
| Iron (Fe)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00005%                                                                                     |
| Lead (Pb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.00005%                                                                                     |
| Heavy metals (Pb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.0005%                                                                                      |
| Esters of fatty acids (glycerol tributrate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Passes test.                                                                                 |
| Sugar (glucose)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Passes test.                                                                                 |
| Acidity or alkalinity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Passes test.                                                                                 |
| Aldehydes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Passes test.                                                                                 |
| Related substances                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Passes test.                                                                                 |
| Halogenated compounds (as Cl)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.003%                                                                                       |
| Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.0%                                                                                         |
| Organic volatile impurities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Meets the requirement.                                                                       |
| Ethylene Glycol & related substance (GC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Passes test.                                                                                 |
| Note(s) : Assay (if applicable) method mentioned.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                              |
| <div><div><p><b>WARNING</b></p><p><b>HAZARD STATEMENTS</b> : May be harmful if swallowed. Causes mild skin irritation. Causes eye irritation.</p><p><b>PRECAUTIONARY STATEMENTS</b> :</p><p><b>Prevention</b> : Wash hands thoroughly after handling.</p><p><b>Response</b> : If skin irritation occurs, seek medical advice/attention. If eye irritation persists, get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p></div><div><p>IMDG Code : ---</p><p>UN No. : ---</p><p>IATA : ---</p></div></div> |                                                                                              |

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|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------|---------------------------|
| <b>Disposal</b> : Dissolve the chemical to be disposed, in water and allow it to run to waste, diluting with large quantities of water. |                            |                               |                           |
| Hazard pictogram(s) : ---                                                                                                               |                            |                               |                           |
| Prepared By : DINESH                                                                                                                    | Checked By: RAJU VYAS      | Approved By: S.S.TOLIA        | Issue Date : 01/07/2002   |
| Name/Dept. : Officer (Q.A.)                                                                                                             | Name/Dept. :Incharge(Q.A.) | Name/Dept. : Incharge (Tech.) | Revision No. : 03         |
| Sign. :                                                                                                                                 | Sign. :                    | Sign. :                       | Revision dt. : 20/08/2010 |
| Date : 18/08/2010                                                                                                                       | Date : 18/08/2010          | Date : 20/08/2010             | AMEND NO. : P062          |