MATERIAL SAFETY DATA SHEET

SECTION 1  : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

IDENTIFICATION OF SUBSTANCE  ETHYLENEDIAMINE DIHYDRIODIDE (EDDI)

SYNONYMS  Ethylenediamine 1,2-Ethanediamine Dihydriodide

NAME OF THE MANUFACTURER/ SUPPLIER  OMKAR SPECIALITY CHEMICALS LTD.

ADDRESS FOR CORRESPONDENCE  W-92 (A), MIDC, Badlapur (E),
Dist.Thane – 421503
State: Maharashtra (India)

TEL.NO.:  91-251-2690651/2691602/2697319
FAX NO.:  91-251-2691572
EMAIL ID:  rishi@bom8.vsnl.net.in/ omkarchem@vsnl.com

SECTION 2  : COMPOSITION AND INFORMATION ON INGREDIENT

CHEMICAL NAME  ETHYLENEDIAMINE DIHYDRIODIDE
CAS NO.  5700-49-2

SECTION 3  : HAZARD IDENTIFICATION

APPEARANCE  COLOURLESS TO LIGHT YELLOW CRYSTALLINE POWDER

EXPOSURE EFFECTS  ALLERGIC

POTENTIAL HEALTH EFFECTS

EYE  IRRITATING TO EYES.

SKIN  SKIN CONTACT MAY CAUSE AN ALLERGIC RESPONSE. CONTACT WITH MOIST SKIN MAY RESULT IN MINOR BURNS. CAN CAUSE IRRITATION.

INHALATION  IRRITATING TO RESPIRATORY TRACT AND HEADACHE. MAY CAUSE SINUS IRRITATION. IRRITATION TO MINOR MEMBRANES.

INGESTION  IN LARGE QUANTITIES, CAN PROVOKE GASTROINTESTINAL DISORDERS AND EXCESSIVE FATIGUE. SOME INDIVIDUALS ARE SUSCEPTIBLE TO AN ALLERGIC RESPONSE FOLLOWING EXPOSURE TO IODIDES.

SECTION 4  : FIRST-AID MEASURES

EYE  FLUSH EYES WITH PLENTY OF WATER FOR ATLEAST 15 MINUTES OCCASIONALLY LIFTING LOWER & UPPER EYE LIDS

SKIN  WASH THOROUGHLY WITH SOAP AND PLENTY OF WATER, WHILE REMOVING CONTAMINATED CLOTHINGS & SHOES.

INHALATION  REMOVE TO FRESH AIR IMMEDIATELY. IF BREATHING IS DIFFICULT, GIVE OXYGEN. DO NOT USE MOUTH TO MOUTH RESUSCITATION IF PERSON HAS INHALED THE SUBSTANCE. INDUCE ARTIFICIAL RESPIRATION WITH THE AID OF APPROVED MEDICAL DEVICE.

INGESTION  IF SWALLOWED, WASHOUT MOUTH WITH PLENTY OF WATER AND ALLOW HIM TO DRINK 2-4 CUPFULS OF WATER PROVIDED VICTIM IS CONSCIOUS.

Contd...2....
ALWAYS SEEK MEDICAL AID. CONSULT NEAREST POISON CONTROL CENTRE OR PHYSICIAN WHO IS FAMILIAR WITH CHEMICALS AND ITS AFTER EFFECTS. TREAT SYMPTOMATICALLY AND SUPPORTIVELY. ALL FIRST-AID PROCEDURES SHOULD BE PERIODICALLY REVIEWED BY AN EXPERIENCED PHYSICIAN.

SECTION 5 : FIRE – FIGHTING MEASURES

GENERAL INFORMATION
AS IN ANY FIRE, WEAR A SELF-CONTAINED BREATHING APPARATUS (MSHA/NIOSH APPROVED OR EQUIVALENT) & FULLY PROTECTIVE GEAR. DURING A FIRE, TOXIC IRRITATING GASES MAY BE GENERATED.

EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER, WATER SPRAY OR IT SHOULD BE APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

PRODUCTION IS NOT FLAMMABLE, HOWEVER TOXIC IODINE VAPOURS MAY BE LIBERATED DURING A FIRE.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

GENERAL INFORMATION
USE PROPER PERSONAL PROTECTIVE EQUIPMENTS AS INDICATED IN SECTION 8. PROVIDE VENTILATION.

SPILLS/LEAK
SWEEP-UP MATERIAL. PLACE INTO A SUITABLE LABELED DISPOSAL CONTAINER. AVOID GENERATING DUST. WASH SPILL SITE, AFTER MATERIAL PICK-UP IS COMPLETE. NOTIFY GOVERNMENT OCCUPATIONAL, HEALTH, SAFETY AND ENVIRONMENTAL AUTHORITIES. REVIEW FEDERAL / STATE / LOCAL GOVERNMENT AUTHORITIES REQUIREMENT PRIOR TO DISPOSAL.

SECTION 7 : HANDLING & STORAGE

HANDLING
USE ONLY IN A WELL-VENTILATED AREA. AVOID DUST GENERATION. USE ALL PROTECTIVE SAFETY EQUIPMENTS.

STORAGE
KEEP TIGHTLY CLOSED & STORE IN A COOL DRY PLACE BELOW 100ºF CHEMICAL IS HYGROSCOPIC AND LIGHT SENSITIVE. KEEP AWAY FROM HEAT, SPARK, OPEN FLAME, SOURCES OF IGNITION AND OTHER INCOMPATIBLE MATERIALS.
SECTION 8: EXPOSURE CONTACT & PERSONAL PROTECTION

Exposure to this material can be controlled in many ways. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. This general information can be used to help develop specific control measures. Ensure that the control systems are properly designed and maintained. Avoid prolonged or repeated exposure. Comply with occupational, environmental, fire and other applicable regulations.

Use all protective safety equipments such as safety goggles, or eye glass [as per OSHA’s Eye & Face Protection Regulations in 29CFR 1910.133 or European Standard EN166], proper clothings, safety shoes, approved respirators that meets OSH’S’s 29CFR 1910.134 & ANSIZ88.2 requirements or European standard EN 149 requirements. All ways clean used safety equipment before reuse.

Engineering methods to control exposure to work place chemicals are preferred. Methods include mechanical [local exhaust] ventilation, process – personnel enclosures and control of process conditions. Administrative control may also be required. Supply sufficient replacement air to make – up for air removed by exhaust system.

Facilities should be equipped with eyewash and safety shower facilities. Appropriate equipments should be available for use in emergencies such as spills or fire exposure limits.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to offwhite to light yellow solid.</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C2H6N2 · 2 HI</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>313.91</td>
</tr>
<tr>
<td>Melting Point °C</td>
<td>About 337.0</td>
</tr>
<tr>
<td>pH</td>
<td>4.5 to 5.0 of 5% aqueous solution</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>More than 50% by weight</td>
</tr>
</tbody>
</table>

Contd...4....
### SECTION 10: STABILITY & REACTIVITY

<table>
<thead>
<tr>
<th>CHEMICAL STABILITY</th>
<th>STABLE UNDER NORMAL STORAGE CONDITIONS.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS TO AVOID</td>
<td>HUMIDITY, METALLIC SALTS, ALKALIES, ACIDS, OXIDIZING AGENTS, HEAT, SPARK, OPEN FLAME, LIGHT, SOURCE OF IGNITION.</td>
</tr>
<tr>
<td>INCOMPATIBILITIES WITH OTHER MATERIALS</td>
<td>HUMIDITY, METALLIC SALTS, ALKALIES, ACIDS, OXIDIZING AGENTS.</td>
</tr>
<tr>
<td>HAZARDOUS DECOMPOSITION PRODUCTS</td>
<td>LIBERATES IODINE, CARBON DIOXIDE, AND NITROGEN OXIDE.</td>
</tr>
<tr>
<td>HAZARDOUS POLYMERIZATION</td>
<td>WILL NOT OCCUR.</td>
</tr>
</tbody>
</table>

### SECTION 11: TOXICOLOGICAL INFORMATION

POSSIBILITY OF DERMATITIS. PROLONGED EXPOSURE TO IODIDES MAY CAUSE SKIN RASH, SINUS IRRITATION, HEADACHE, IRRITATION TO MUCOUS MEMBRANES.

<table>
<thead>
<tr>
<th>CARCINOGENICITY</th>
<th>NOT REPORTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUTAGENICITY</td>
<td>NOT REPORTED</td>
</tr>
<tr>
<td>REPRODUCTIVE EFFECTS</td>
<td>NOT REPORTED</td>
</tr>
<tr>
<td>TERATOGENICITY</td>
<td>NOT REPORTED</td>
</tr>
</tbody>
</table>

SINCE THE MANNER IN WHICH EXPOSURE LIMITS ARE ESTABLISHED, INTERPRETED, IMPLEMENTED CAN VARY, OBTAIN DETAILED INFORMATION FROM APPROPRIATE AGENCIES IN EACH JURISDICTION.

### SECTION 12: ECOLOGICAL INFORMATION

NO DATA AVAILABLE. HOWEVER, DO NOT ALLOW MATERIAL TO BE RELEASED TO THE ENVIRONMENT, WITHOUT PROPER GOVERNMENTAL PERMITS.

### SECTION 13 DISPOSAL CONSIDERATIONS

WASTE GENERATORS MUST DETERMINE WHETHER DISCARDED CHEMICAL WASTE IN CLASSIFIED AS A HAZARDOUS WASTE. US - EPA GUIDE LINES FOR THE CLASSIFICATION DETERMINATION ARE LISTED IN 40 CFR PARTS 261.3. COLLECT ALL THE COASTE IN A WELL COVERED / LEAK PROOF / LABELED CONTAINERS AND REVIEW FEDERAL / STATE / LOCAL GOVERNMENT REQUIREMENT PRIOR TO DISPOSAL.

### SECTION 14 TRANSPORT INFORMATION

NOT DECLARED AS A HAZARDOUS MATERIAL FOR TRANSPORT.

Contd...5....
SECTION : 15 REGULATORY INFORMATION

NO SPECIFIC DATA AVAILABLE. HOWEVER, FOR MORE DETAILS PLEASE REFER TO SECTION 4 & 8 OF MSDS.

SECTION : 16 ADDITIONAL INFORMATION

THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF MATERIAL BY A PERSON TAIRED IN CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS & DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION DEPENDING ON USAGE. ADEQUATE PROTECTIVE CLOTHING, INCLUDING EYE / FACE GUARDS, APPROVED RESPIRATORS MUST BE USED TO AVOID CONTACT WITH THE MATERIAL OR BREATHING CHEMICAL VAPOURS / FUMES.

EXPOSURE TO THIS PRODUCT MAY CAUSE ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, M/S. OMKAR SPECIALITY CHEMICALS LTD. CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH CHEMICALS OF MATERIALS. M/S. OMKAR SPECIALITY CHEMICALS LTD. WARRANTS THAT, THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE TEST REPORT.

M/S. OMKAR SPECIALITY CHEMICALS LTD. DISCLAIMS ANY OTHER WARRANTIES EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNISE THAT, THIS PRODUCT CAN CAUSE SEVERE INJURY, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATIONS.

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