 <p>CHEMLABS Quality Our Forte</p>	<p>LEONID CHEMICALS PVT. LTD., BANGALORE</p> <p>An ISO-9001:2008 Certified Company</p> <p>Quality Assurance Department</p>	<p>(CODE) DOCUMENT : WI (CODE) SECTION : WI/SM (DATE) : 01.04.2011</p>	 <p>Issue : 02 Rev.: 00</p>
<p>Title: MATERIAL SAFETY DATA SHEET (MSDS):D-VALINE</p>			<p>1 Page of 1</p>

1. Chemical Product and Company Identification

Product name:
D-Valine

Cat No:
V009

Synonyms:
D-2-Amino-3-methylbutanoic acid, (R)- α -Aminoisovaleric acid

Cas No.:
640-68-6

Company Identification:

LEONID CHEMICALS Pvt Ltd,
62/A2, 1st Stage,
Yeshvanthpur Industrial Suburb,
Ashokpuram School Road,
Bangalore -22, Karnataka, INDIA
Ph- +91-80-23378354
Fax: +918023378354/23377126

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Not a dangerous substance according to GHS.
This substance is not classified as dangerous according to Directive 67/548/EEC.



Label elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: $C_5H_{11}NO_2$
Molecular Weight: 117.15 g/mol
CAS-No.:640-68-6

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4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Avoid dust formation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage



Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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Hand protection
For prolonged or repeated contact use protective gloves.

Eye protection
Safety glasses

Hygiene measures
General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: powder
Colour: white
pH: no data available
Melting point: > 295 °C
Boiling point: no data available
Flash point: no data available
Ignition temperature: no data available
Lower explosion limit: no data available
Upper explosion limit: no data available
Water solubility: no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO_x)



11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Intraperitoneal - rat - 6.093 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Lungs, Thorax, or
Respiration: Dyspnea. Nutritional and Gross Metabolic: Changes in: Body temperature decrease.

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation

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no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: YV9360000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available



PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

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Product

Observe all federal, state, and local environmental regulations.
 Contaminated packaging
 Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

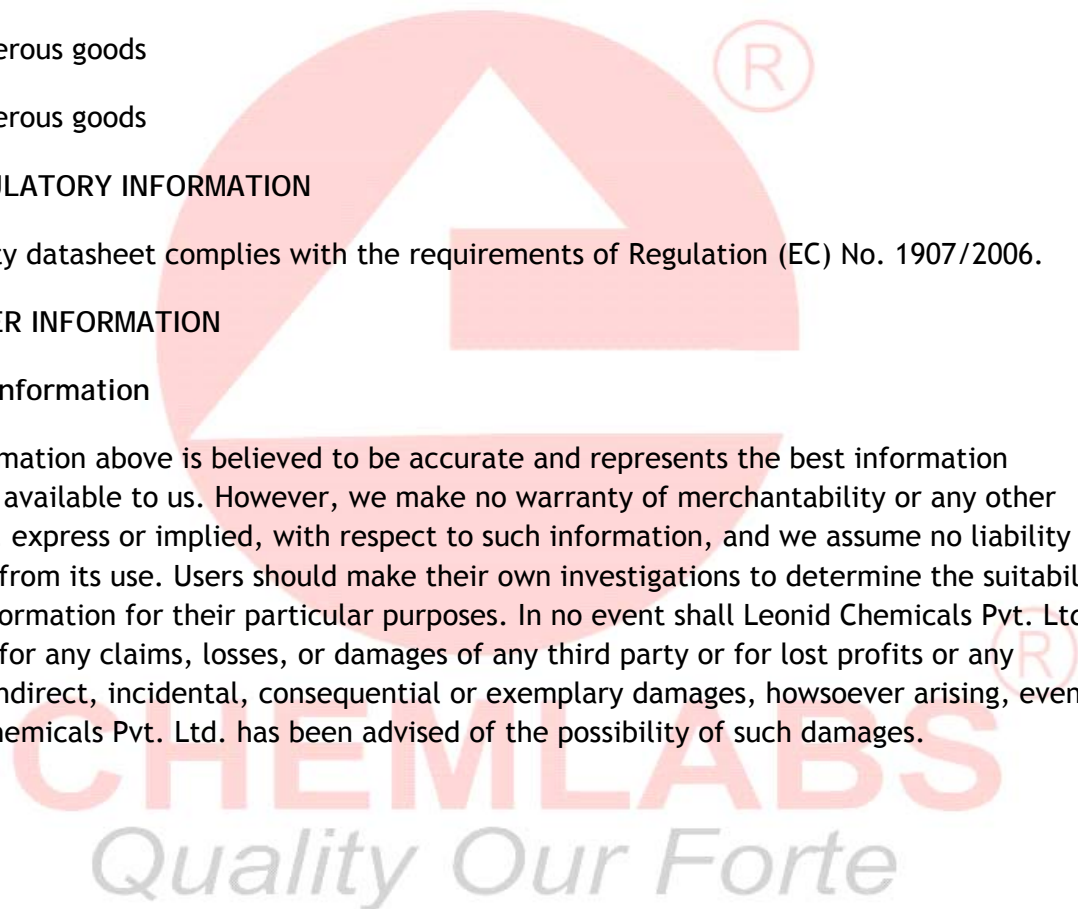
15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Further information

The information above is believed to be accurate and represents the best information currently available to us. However, 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. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.





**LEONID CHEMICALS PVT. LTD.,
BANGALORE**

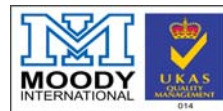
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Quality Assurance Department

(CODE) DOCUMENT :
R/QPM/8.2.4/06

(CODE) SECTION :
V009

(DATE) : 01.04.2011



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Title: SPECIFICATION MANUAL – D-VALINE

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Specification manual – D- Valine

$C_5H_{11}NO_2$

Mol Wt: 117.15

Product : D - Valine
Description : white to off white crystalline powder
Cat No : V009
CAS No : 640-68-6
Prepared Date : 14.09.2011
Approved Date : 14.09.2011

REVISION HISTORY

Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	14.09.2011
02/00	Reviewed no changes	S. Paul Joshua	NA
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl.no	Tests	Limit
1	Assay (NT)	$\geq 98 \%$
2	Specific optical rotation	$[\alpha]_D^{23} - 27.35^\circ$, c = 3.4 in 6 M HCl

Approved By: S.Paul Joshua, Head Quality Control and Quality Assurance

62/A2 1st Stage Yeshvanthpur Industrial Suburb ,Ashokpuram School Road Bangalore 560022 Karnataka ,INDIA.

Telefax:+91 080 23378354/23377126 Email:paul@leonidchemicals.net,

www.leonidchemicals.com